

JPRS 74379

16 October 1979

USSR Report

RESOURCES

No. 896



FOREIGN BROADCAST INFORMATION SERVICE

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REPORT DOCUMENTATION PAGE		1. REPORT NO. JPRS 74379	2.	3. Recipient's Accession No.
4. Title and Subtitle USSR REPORT: RESOURCES, No.896			5. Report Date 16 October 1979	
7. Author(s)			6.	
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201			8. Performing Organization Rept. No.	
			10. Project/Task/Work Unit No.	
			11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address As above			13. Type of Report & Period Covered	
			14.	
15. Supplementary Notes				
16. Abstract (Limit: 200 words) This serial report contains information on energy, fuels and related equipment; fishing industry and marine resources; water resources, minerals, timber, and electric power and power equipment.				
17. Document Analysis a. Descriptors USSR Natural Resources Electric Power Energy Energy Conservation Fisheries Fuels Minerals Timber Forestry Water Supply b. Identifiers/Open-Ended Terms c. ODSAT Field/Group 2C, 2F, 5C, 8G, 10, 21D				
18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22161		19. Security Class (This Report) UNCLASSIFIED		21. No. of Pages 78
		20. Security Class (This Page) UNCLASSIFIED		22. Price

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CONTENTS

PAGE

ELECTRIC POWER AND POWER EQUIPMENT

Power Industry in 1979 (Pyotr Neporozhny Interview; NEW TIMES, Sep 79).....	1
Ministry of Power Replies to Criticism (IZVESTIYA, 26 Aug 79).....	7
Future Balance of Power Sources Described (Ch. Dzhubarly, R. Mustafayev; VYSHKA, 8 Aug 79).....	9
Greater Use of Geothermal Power Urged (I. Dvorov, A. Razgon; STROITEL'NAYA GAZETA, 29 Aug 79).....	11
Progress at Sayano-Shushenskiy Hydropower Plant Reviewed (A. Blokhin; IZVESTIYA, 22 Aug 79).....	15
Newspaper Expose Prompts Better TETs Winter Preparation (PRAVDA, 25 Aug 79).....	17

ENERGY CONSERVATION

Fuel Supply for Grain Harvesters (K. Romashov; SOTSIALISTICHESKAYA INDUSTRIYA, 9 Aug 79).....	18
Petroleum Conservation in Belorussian Agriculture (SOVETSKAYA BELORUSSIYA, 6 Sep 79).....	20
Kuzbass Electric Power Conservation (V. Sitnikov; IZVESTIYA, 24 Aug 79).....	25

CONTENTS (Continued)

Page

Natural Gas Consumption in Industry (A. Voytenko; SOTSIALISTICHESKAYA INDUSTRIYA, 25 Aug 79).....	30
Kazakh SSR Fall-Winter Energy Situation Surveyed (KAZAKHSTANSKAYA PRAVDA, 15 Aug 79).....	34
Fuel, Energy Conservation in Construction Industry (Editorial; STROITEL'NAYA GAZETA, 8 Aug 79).....	38
Editorial Suggestions for Winter Preparation (Editorial; SOVETSKAYA ESTONIYA, 3 Aug 79).....	41
Discussion Continues on Efficient Use of Wood Resources (SOVETSKAYA BELORUSIYA, 9 Aug 79).....	44

FUELS AND RELATED EQUIPMENT

High Official Claims Soviet Oil Reserves Are Growing (RABOTNICHESKO DELO, 19 Sep 79).....	48
Deputy Minister Notes Petroleum Workers' Holiday (A. M. Zhdanov; NEFTYANOYE KHOZYAYSTVO, Aug 79)....	51
Problems at Karagandaugol' Detailed (M. Sergeychik; KAZAKHSTANSKAYA PRAVDA, 22 Aug 79).	57
Problems at Nizhnekamsk Petrochemical Facility Discussed (D. Stepanov; PRAVDA, 1 Sep 79).....	62
Deep Drilling Requires Better Coordination With Scientists (V. Bidzhakov; SOVETSKAYA ROSSIYA, 11 Sep 79).....	67
Briefs	
Gas Storage Facility	71
Surgut-Polotsk Oil Line	71
Gas Supply to Leningrad	71
Coal Mining Equipment	72
Bukhara-Ural Gas Pipeline	72
Gas Field Cooperation	72
Kalamkas Oil Deposit	72

CONTENTS (Continued)

Page

MINERALS

Development of the Talnakhsko-Oktyabr'skoye Polymetallic Ore Deposits (N. Mel'nikov; PRAVDA, 31 Aug 79).....	73
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ELECTRIC POWER AND POWER EQUIPMENT

POWER INDUSTRY IN 1979

Moscow NEW TIMES in English No 37, Sep 79 pp 4-7

[Interview with Pyotr Neporozhny, U.S.S.R. minister of power and electrification and corresponding member of the U.S.S.R. Academy of Sciences, by Vladimir Rosen, date and place not given]

[Text] The energy problem has become an acute issue of global dimensions in the full sense of the word. How it is resolved in the Soviet Union is discussed below by PYOTR NEPOROZHNY, U.S.S.R. Minister of Power and Electrification and Corresponding Member of the U.S.S.R. Academy of Sciences, in an interview granted to NEW TIMES reporter Vladimir Rosen.

The energy crisis has become all but the No. 1 concern of the leaders of the capitalist and developing countries. The efforts they have made to work out an effective programme of action to deal with it have so far proved unsuccessful. The only thing on which basic agreement has been reached in the West is that energy has to be economized and oil consumption limited. What is your view of the problem?

Electric energy and fuel are of course of utmost importance. As for the energy crisis that has hit the capitalist countries, the meetings held by their leaders to examine it, including the Tokyo summit, have not brought its solution any nearer. It should be mentioned that the

present energy crisis did not set in overnight. And, contrary to what a good part of the bourgeois press says, the blame for it can by no means be laid at the doorstep of the oil-producing developing countries. The trouble is that in the long years that the giant capitalist corporations—the Seven Sisters and others—monopolized the extraction of oil in these countries, its refining and distribution in the capitalist markets the West got accustomed to cheap oil, which came to underlie its "motorized civilization" and to be widely used as fuel for industry and for heating. The demand grew rapidly from year to year.

Inasmuch as oil was to be had for a song, the monopolies in effect retarded the development of other, less profitable energy sources. The once flourishing coal-mining industry shrank and insufficient attention was paid to nuclear power development.

Now the time has come for an

agonizing sobering-up. The true masters of some of the world's biggest oil fields—the Middle East, African and South American countries—have taken them into their own hands and are using the revenue obtained from oil to do away with their age-old backwardness.

But it is not only a matter of this. The monopolies, which continue to control the fuel markets of the non-socialist countries, are deliberately causing difficulties and shortages of petrol and other petroleum products in order to keep up their super-profits. Moreover, U.S. government agencies are encouraging oil purchases abroad by means of import subsidies, and this is having a highly adverse effect on the oil reserves of the United States' Western partners. Nothing is being done to bring the capitalist countries' fuel resources into any sort of balance.

The problem has been further aggravated by the deterrent effect of the accident at the Three Mile Island nuclear power plant in Pennsylvania on the realization of the U.S. programme for the construction of new atomic power plants. The mishap has to some extent influenced also other Western countries, re, as in the U.S., radiation safety standards are being reconsidered.

Some Western economists maintain that the Soviet Union too will not be able to avoid serious difficulties as regards energy. What would you say on this score?

It may be said with certainty that neither the Soviet Union nor the socialist community as a whole is threatened by an energy crisis. Our

long-term policy of planned development primarily of our own resources has fully proved its worth. The Soviet government tackled this problem at its very inception. Suffice it to recall the GOELRO Plan. The Soviet power industry has developed independently of imports, on the basis of comprehensive, balanced, planned utilization of all the various natural fuel resources. The emphasis never was on immediate returns, but on the long-term interests of our rapidly developing economy and the needs of the other socialist countries. In keeping with this approach, an integrated power grid for the CMEA countries was created, making it possible to manoeuvre with the flow of electric power and thereby ensure its economical utilization. Electric power has always been a major component in our energy balance.

However, it would be a mistake to assume that we have no problems. It should be borne in mind that our main fuel resources are concentrated in the eastern districts of the Soviet Union, while 80 percent of our total energy consumption falls to the share of the European part of the country. Fuel thus has to be transported in huge quantities and over long distances.

Our oil fields are moving farther and farther to the east and north, which means higher transportation costs. On the other hand, the economic troubles, energy crisis and inflation in the West are having an indirect effect on us as well. For the economy of the socialist community is not separated by an impenetrable wall from the nonsocialist world. The socialist countries take full account of the fact that the deterioration of the world economic situation is bound to cause some problems for them too, in

particular as regards maintenance of the high level reached in the consumption of oil and petroleum products and ensuring a steady growth of power capacities.

But these problems do not alter the basic fact that our country has adequate resources of fuel. The important thing is to make the most effective use of them.

Our Ministry is determined to take the comprehensive approach. Work is continuing on oil and gas pipelines from Western Siberia to the European part of the country, and construction has begun in the Ekibastuz coal field of big thermal power stations to generate electricity for transmission to the European part of the U.S.S.R. over direct current high-tension lines. Construction has also begun of large thermal power stations at the Kansk-Achinsk coal field to be linked by alternating current transmission lines with the European part of the country. There is also a big programme for building thermal stations using casing head gas in the Tyumen oil and gas fields to generate electricity for the Urals.

At the same time it is essential to expand the energy base in the European part of the country. To this end atomic electric power stations with a projected total capacity of 100 million kilowatts are to be built here in the next few decades. The realization of the programme has already started.

I should like to stress that simultaneously with the expansion of our energy potential we are taking steps to ensure the rational economical utilization of all our fuel and energy resources.

How is the current plan coming along?

Our Ministry fulfilled its plan for the first half year. At present we are concentrating on the programme for launching nuclear power capacities and the construction of the huge Atomnash Works, which will provide us with a good base for the fulfilment of the atomic electric power plants programme.

Good headway is being made in building the first Ekibastuz power station, and development work is

beginning in the rich Kansk-Achinsk coal field. All this work is progressing according to timetable.

You mentioned the socialist community. How is socialist economic integration proceeding in the sphere of energy?

Fuel and energy resources are one of the principal elements of the Comprehensive Programme of the countries affiliated with the Council for Mutual Economic Assistance. Our object is to ensure that the fraternal countries as well should be ensured the fuel and electric power they need. As far back as 1966 a Standing Commission on pooling electric power and the comprehensive utilization of the water power resources of the Danube was set up within the framework of the CMEA. Two years later its functions were expanded and it was renamed the CMEA Standing Commission on Electric Power.

Experience has shown that the best way to accelerate the development of the fraternal countries' power industries is through integrating their power grids and their parallel operation.

The construction of a number of power lines linking the energy systems of the European members of the CMEA began in 1960, and in 1962 the Central Control Board of the interconnected grids was set up in Prague.

The power industry of the CMEA countries is developing rapidly. In the period from 1960 to 1977 the total rated capacity of their power stations increased from 90.8 million to 319.5 million kilowatts, and electricity output from 406,500 million (exclusive of Cuba) to 1,539,500 million kilowatt-hours (including Cuba).

The CMEA countries' share in the world output of electric power increased from 17.7 per cent in 1960 to 21.6 per cent in 1977.

The general long-range plan for the CMEA countries' power systems approved in 1976 envisages the construction of large steam and nuclear electric power stations and 750-kilovolt transmission lines, as well as fuller utilization of hydro-power resources. The plan provides for the electric power needs of these countries up to 1990. At the recent session of the CMEA held in Moscow an agreement was signed on co-operation in the production of equipment for nuclear electric stations.

The Soviet Union renders the other socialist countries technical assistance, in particular in the construction of nuclear power plants. The Nord nuclear power station in the G.D.R. and the Kozloduz station in Bulgaria, both built with Soviet assistance, are already in operation.

Co-operation in this sphere is not confined to the socialist countries. Power transmission lines linking the U.S.S.R. with Finland and Austria are now under construction, and it is quite likely that they will be continued farther westward.

It is in place to recall that some years ago the Soviet Union proposed the convocation of an all-European congress on energy to discuss the possibilities for pooling electric energy by linking the power grids of the entire European region.

Could you say something about the use of solar energy?

This sphere is still essentially at the experimental stage. Solar energy is not likely to have any significant effect on the electricity and general energy balance for another ten years or so, but will be confined to local use.

How do you visualize the power industry of, say, the end of the century?

Broadly speaking, fuel and electricity needs are likely to be met

mainly through the accelerated development of thermal neutron power plants with a view to going over some time between 1990 and 2000 to plants with fast neutron reactors. The first of the latter type of station is already operating, and successfully, in Shevchenko in Central Asia. Since atomic power plants must operate at an even load, the programme must necessarily include the construction of pumping stations which would use the excess current generated by the atomic plants during the low-load hours at night to fill reservoirs, from which the water would be released during peak-load hours to turn the turbines of hydro-power plants built for the purpose. In this way the effective operation of the atomic power stations in the European part of the U.S.S.R. could be ensured.

An extremely important problem we are now working on is the use of Siberian, and primarily Kansk-Achinsk, brown coal in a comprehensive technological cycle, including liquefaction.

One of the products of this cycle are high-calory concentrates, which, unlike low-calory brown coal, can be economically transported by rail. Methanol, which is needed by the chemical industry, can be obtained in the same way. This will help also in resolving the problem of motor fuel. This technological cycle is a perfectly realistic prospect.

At some stage pipeline transportation of coal concentrates is also likely to become a reality.

The contours of the future are thus clearly taking shape. It is already possible to talk of trends of technical development not only up to the eighties, but also to the nineties, all the way to the year 2000.

As regards further prospects, it should be borne in mind that we are approaching mastery of the controlled thermonuclear reaction, which holds out the promise of a literally inexhaustible source of energy. As a matter of fact, Academician Igor Kurchatov, who pioneered in this research, acquainted the scientific

world with his findings as far back as 1956. The Soviet Tokamak device for obtaining high temperature plasma has served as a prototype for similar installations in the U.S., Japan and other countries. Our scientists are pooling their experience in this important area of research with their foreign colleagues.

Not long ago the Kurchatov Institute of Atomic Energy announced that it had put into operation the Tokamak-7, the world's first thermonuclear installation of this type with superconductive coils for the main magnetic field. This latest achievement of Soviet scientists and engineers brings humanity one step closer to the realization of the seemingly fantastic plan for opening up an inexhaustible energy source.

You stressed the importance of nuclear power development. Yet the fact is that the U.S.S.R. still is behind not only the U.S., but also Britain for number of nuclear power units. Besides, according to foreign statistics, many nuclear power stations are under construction or have been contracted for in the United States, France, West Germany, Spain, and Canada. Could you comment on this?

First of all, last year atomic power stations in the U.S.S.R. generated 44,800 million kilowatt-hours of electric energy—more than in any West European country, Britain included. As for the statistics on atomic power plants under construction or contracted for, it should be borne in mind that in the capitalist countries statistics are not always reliable. The number of stations actually under construction is not too great, even in West Germany. For instance, the launching of three ready-made stations has been put off indefinitely for various reasons. In the United States several were stopped after the Three Mile Island accident.

The Soviet Union is now building more such stations than are under construction or have been contracted for in any other country with the exception of the U.S.

The Soviet Union has no need to press on with the construction of nuclear power plants east of the Urals, where there now are only two such stations in operation: the Shevchenko station on the Caspian, half of whose electricity output is used for desalination of sea water, and the Bilibino station in Chukotka, which provides this remote area not only with electricity, but with heat. The huge deposits of organic fuels in the eastern regions will be sufficient to take care of all their energy needs in the future as well.

As regards the European part of the country, here some 80 per cent of the electric power and heat needs are taken care of by thermal power stations. As I already noted, the transportation of fuel for these stations from the other side of the Urals is becoming an increasingly complex and costly proposition. At the same time with the growth of industry and the big cities, power and heat needs in this part of the country are steadily increasing. Hence the necessity to accelerate nuclear power development.

You were recently in the United States. Could you say something about our scientific and technological co-operation in the field of energy with that country?

Our co-operation is proceeding in conformity with the intergovernmental agreement signed in June 1974. In June this year the third session of the Soviet-American Joint Committee on Co-operation in the Field of Energy was held in the United States. The Soviet delegation, which I headed, consisted of leading

executives and experts of not only our Ministry, but also of the Ministries of coal, oil and gas industries, the State Planning Committee and the State Committee for Science and Technology. The prestigious U.S. delegation was headed by Deputy Secretary of Energy John F. O'Leary.

It was a successful session conducted in a good, businesslike atmosphere. We heard and discussed communications from the working groups on information and forecasting in the sphere of energy on diverse problems of electric power development, and on the coal, oil and gas industries.

In the present circumstances forecasting not only for 1980, but up to 1985 and 1990, of course, evokes the keenest interest. The exchange of information in this sphere was found to have been very fruitful. It was decided to hold a seminar on the subject in October in the Soviet Union. It was also noted that in a number of areas of electric power

development Soviet-American co-operation is producing good results and has been mutually beneficial in the full sense of the word. The seminars arranged on geochemistry and the basic properties of oil, on development of oil fields and on increasing yields from oil-bearing strata have also been useful. This co-operation is to be expanded further.

After the session ended on June 14, we were invited by our American hosts to take a ten-day tour, during which we visited Pittsburgh, San Francisco, Chicago, New York, Schenectady, and Nashville, the big General Electric, Westinghouse, Bechtel, and Pacific Gas and Electric firms, the Consolidated Edison Energy Control Centre, the new Johnsonville electric power station, the Zion nuclear power station, and a General Electric gas turbine plant. We were given a hospitable reception everywhere.



CSO: 1812

ELECTRIC POWER AND POWER EQUIPMENT

MINISTRY OF POWER REPLIES TO CRITICISM

Moscow IZVESTIYA in Russian 26 Aug 79 p 1

[Reply to the editors by the USSR Ministry of Power and Electrification]

[Text] The USSR Minenergo [Ministry of Power and Electrification] has investigated the article "Siberian Complex" (IZVESTIYA, No 124), and states the following:

The article has correctly raised the questions of creating the necessary conditions for attracting and retaining personnel at the construction site of the Kansk-Achinsk Fuel-Power Complex. Due to the fact that the completion of the first stage of the Sharypovskiy plant for reinforced concrete products for large-panel housing construction and sociocultural facilities is planned only for 1982, sets for the construction of housing totaling 400,000 m² in the period of 1979-1982 will be delivered from other plants of Minenergo. During the fourth quarter of the current year, a shop for large-panel housing construction with a capacity of 50,000 m² of housing area will be completed at the Tom'-Usinskiy plant for reinforced concrete elements. A large portion of these products will be sent to the projects of the Kansk-Achinsk Fuel-Power Complex [KATEK].

The USSR Minenergo supports the proposal of the Krasnoyarskiy kraykom on developing the production of large-panel housing construction at Nazarovo on the basis of our existing enterprise there. Help from the kray organizations in acquiring the area directly adjacent to the territory of the existing plant will accelerate the resolving of this question at the USSR Gosplan.

The USSR Minenergo has defined the tasks of its design, operational and construction-installation organizations participating in the development of the KATEK. A quota has been set for an accelerated rise in the number of construction-installation personnel in building the Berezhovskaya GRES-1 in 1980, including the sending of 180 young specialists. There are plans to build vocational schools for 2,400 persons to be completed in 1981-1982, and a training center for 1,200 persons to be completed in 1981. Evening technical schools can be opened on the basis of the schools.

The developers of the plant found the reserve which allows them to maintain rigid completion dates precisely in the parallel execution of assembly work on the turbine and generator and the simultaneous execution of them as if "on two levels."

This is the main thing. But certainly the pressure piping should also be ready by this time. The volute chamber for the second unit is being assembled by the brigade of the winner of the Order of Lenin and member of the Sayanogorsk gorkom, Vyacheslav Demidenko. This collective was the first at the site to conclude a contract of labor cooperation with the brigade of Valentin Antonov which was working thousands of kilometers away from Sayanogorsk at the Metallurgical Metals Plant.

"The prompt completion of the water line for the second unit is in no doubt," said the chief engineer of the Gidromontazh [Hydropower Assembly] section, Ye. Lyubashevskiy. "The horizontal section has been concreted, the assembly of the inclined portion of the pressurized line is being completed. But it is more complicated with the third line."

In strong collectives, difficulties only give rise to a new influx of creative initiative. And this is the case now among the specialists of Gidromontazh.

10272
CSO: 1822

ELECTRIC POWER AND POWER EQUIPMENT

FUTURE BALANCE OF POWER SOURCES DESCRIBED

Baku VYSHKA in Russian 8 Aug 79 p 3

[Article by Ch. Dzhubarly, chairman of the Scientific Council for Interdisciplinary Problems of Energy under the Azerbaijan Academy of Sciences, and R. Mustafayev, secretary of the council: "The Future of Power"]

[Excerpt] How is the demand for energy presently being satisfied? Basically by the so-called irreplaceable types of natural power resources. These include thermonuclear power, nuclear fission, the chemical energy of organic fossil fuels, and, finally, the internal heat of the earth.

Work is being done in our nation on developing wind-driven power units. The region of the coastal zone of the Caspian Sea as well as the entire Apsheron Peninsula with the adjacent islands in terms of the basic natural characteristics are one of the promising regions for using wind-driven power units and the wind power stations developed on the basis of them.

Of the other untraditional methods of obtaining energy, one might mention the use of the energy from geothermal waters, the energy from underwater ocean currents, tides and the thermal energy of the ocean. Without going in detail into the problems and prospects of using these enumerated types of energy, we would point out that at the present it would be more realistic to employ the energy of precisely the geothermal waters. According to the data of American scientists, 15 percent of American power will be based on the use of geothermal water.

As you can see, the common task presently confronting all of mankind, that is, the search for and development of new energy sources, is being successfully carried out. In crisis situations, as always, science suggests a way out. And although crisis phenomena are not observed in the USSR in the area of energy supply (the very rich resources of mineral fuel in Western Siberia make it possible to look with confidence at the distant future), our scientists are working a great deal and with results on tapping new sources of energy. In particular, we hold leading positions in the world experience of developing atomic fast neutron reactors and on the

basis of employing controlled thermonuclear synthesis and so forth. Soviet scientists, including those at the scientific institutions of the Azerbaijan Academy of Sciences, are at work in the area of renewable types of energy, solar and wind power.

10272

CSO: 1822

ELECTRIC POWER AND POWER EQUIPMENT

GREATER USE OF GEOTHERMAL POWER URGED

Moscow STROITEL'NAYA GAZETA in Russian 29 Aug 79 p 3

[Article by I. Dvorov, deputy chairman of the Scientific Council under the USSR Academy of Sciences for Geothermal Research, and A. Razgon, special correspondent of STROITEL'NAYA GAZETA: "A Vegetating Resource"]

[Text] A thermal power plant without auxiliary equipment, without combustion waste products and without fuel. Is such a thing possible?

It is not only possible but actually exists. It is a question of using the inner heat of the earth which comes to the surface through natural self-venting springs or through drilled wells. Our planet which is an age-old heat factory holds inexhaustible resources of hot water and steam in its bowels. Their energy surpasses all the total reserves of coal, oil and gas by many times.

And they are not remaining idle. Specialists from all sorts of areas more and more often and more and more willingly are turning to geothermal waters. These are being used to heat large residential areas in the cities of Georgia (Tbilisi and Zugdidi) and in Dagestan (Makhachkala, Kizlyar and Izberbash). In Kamchatka, a power plant is operating steadily, in delivering energy for a fish combine, a sovkhos and a settlement. Thermal waters are used for maintaining proper temperatures in hothouses and fish nurseries, for thawing the ground and washing wool.

Possibly the reader may expect the traditional phrase in such instances "it would be possible to give other examples," but.... As you see, here there is this short word. Because there are no other examples.

Why? Possibly because there are few geothermal waters? No, they have been discovered on almost two-thirds of the territory of our nation. Or perhaps their recovery is slight and hence development is disadvantageous? Again, no. At present there are verified for development 200,000 m³ of water per day at a temperature of 50-105°, and 5,000 tons of steam with a temperature of 170-200°. And in the forecasts of the scientists, the figures run into tens of millions of cubic meters.

In six regions of the country, the Mingazprom [Ministry of Gas Industry] (this question has been assigned to it) has formed administrations for prospecting, recovery and use of geothermal waters. However the equipping of these formations clearly does not conform to the role which they must play. Thus at present this energy resource is of little importance in the national economy.

In formal terms the development of hot springs is very similar to the drilling and equipping of gas wells. The transporting of water or steam may also seem the same. And there is much that is in common. As for other coincidences, they are deceptive. Thermal waters are extremely diverse in composition. They represent a complicated mineral assortment, where scores of chemical elements can coexist. This feature of theirs has become the difficult threshold which up to now practical workers have been unable to cross as the waters gradually but constantly corrode or plug the walls of the pipe with deposits.

But it is essential to cross this threshold. It must be crossed because the underground waters, in addition to heat and water which is already valuable, provide rare metals and scarce salts. They provide this so abundantly that in the world there are several famous centers involved in the industrial extraction of these components. We can scarcely overlook this wealth.

Incidentally, judge for yourselves. In our nation vegetables from hot-houses using geothermal heating cost 3-fold less than those where traditional fuel is employed. In Hungary, 80 percent of the hothouses for seedlings and livestock farms are heated with underground water, and the savings is 50,000 tons of fuel a year.

Specialists from the Novosibirsk department of Teploelektroproyekt [All-Union State Institute for the Planning of Electrical Equipment for Heat Engineering Structures] have estimated that on Kamchatka it is more economic to build geothermal power plants than hydroelectric or atomic ones. The conclusions have been substantiated as the cost of a kilowatt-hour at the Pauzhetskiy TES was 0.30-0.35 kopeck.

In Dagestan the cost of 1 gigacalorie of heat from the TES and boilers is 5-7 rubles, and from geothermal waters, 0.6-0.2 ruble.

However we might wonder what is required from the six administrations of the Mingazprom for the extensive use of geothermal power in our daily life? And what can they do?

It is essential to carry out research on the combating of corrosion and salt deposits, to determine the range of measures to eliminate these evil tricks wherever they are encountered. Such work is being carried out but the volume is extremely insignificant.

It is essential to develop and produce equipment which is capable of operating under the specific conditions and under high temperatures and pressure.

It is essential to equip the wells with ion-exchange resin units. Then purified fresh water will flow through the ground-level pipes.

It is essential to provide for the recovery of noxious gases which are encountered in the thermal waters. This demand is dictated by the needs of environmental conservation.

It is essential. But obviously that is it. They are content to weigh the global tasks of technical progress on the scales of the humble production subdivisions of the Mingazprom.

The problems which are raised by geothermal power await the efforts of scientists from the most diverse spheres. The large aggregate of engineering problems involved in the comprehensive development of the underground waters will succumb only to a mass assault. As yet geothermal power in the Mingazprom is moving according to the principle of "a bit here, a bit there." Small wonder that in the Ninth Five-Year Plan only one-fifth of the explored water reserves and approximately one-eighteenth of the steam were tapped.

The planning bodies have contributed largely to this, as they did not raise the use of underground hot water to a directive level.

And while on the spot they are not against developing the deposits of hot waters, they simply do not risk this as there are no reliable engineering and scientific recommendations. In turn the researchers also are in no hurry to throw their efforts into the geothermal area as the economists and planners responsible for fuel resources in no way urge them to do this.

In order to pool the efforts, it is essential to assemble everyone under one roof. It is essential to organize a new large trust, an association or a main administration. This is logical and traditional. But is this the best way?

Possibly, we should begin not with a complete economic unit but rather with a sort of coordinating center under the Mingazprom. It would be granted rights, ties, information and equipment. Let it put pressure on the planning organizations in justifying its creation. Let it possess mobile detachments for drilling and equipping the wells. Let it order contracts for studies by the academy institutes, the VUZes and design bureaus. For the present the problems of geothermal energy are being studied in Moscow, Leningrad, Makhachkala, Kiev, Petropavlovsk-Kamchatskiy, Yakutsk and Novosibirsk. It would be extremely complicated and ill-advised to collect these scientists into a single institute. But it is possible and necessary to collect their research on geothermal power. Here is a convincing illustration.

Scientists from the Groznyy Petroleum Institute under the leadership of Prof G. Sukharev, have developed a scheme for the rational recycling of thermal waters. Having run through the heating networks of industrial and residential buildings, the used water will go to hothouses and swimming pools. Then they will be pumped back into the ground. In following their previous path, the water from the internal heat of the earth will be reheated to a high temperature and again appear on the surface.

It has become axiomatic that our nation abounds in underground wealth. We are accustomed to hear of the significant deposits of coal, oil and gas. But over time the accent is shifted. Yesterday's fuel has become today's bread of the chemical industry. The use of these fossils as fuel is becoming more and more absurd. And the thermal waters are ready to assume a portion of the responsibilities here. They are virtually harmless to the existing natural conditions, they are a replaceable source, and are located in vitally important regions of the nation as hot seas splash beneath Kazakhstan and Western Siberia, in the Caucasus and Carpathians, and in the zone of the Baykal-Amur Mainline. The planet has been generous with us.

For this reason at present there cannot be two opinions as hydrogeothermal power should take its proper place in the nation's economy.

10272

CSO: 1822

ELECTRIC POWER AND POWER EQUIPMENT

PROGRESS AT SAYANO-SHUSHENSKIY HYDROPOWER PLANT REVIEWED

Moscow IZVESTIYA in Russian 22 Aug 79 p 1

[Article by A. Blokhnin, special IZVESTIYA correspondent, Sayanogorsk: "The Relay is Continuing"]

[Text] The narrow balcony at the entrance to the construction site headquarters was reminiscent of the captain's bridge of a large ship. Below the black water of the Yenisey was tossing the stripped branches and tree trunks which had passed down the "cleaner" of the giant waterfall that dropped from the 70-meter concrete edge of the dam.

In the present year, the second and third units are to be put into operation: the second unit by the anniversary of Great October, and the third at the year's end, by Power Day.

...Having passed the watchman at the station's building, we stood next to the power giant. In one unit there were 640,000 kilowatts! Assembly of the second unit was underway behind a temporary partition. Along with the famous brigade of power equipment assemblers of Vladimir Dudchenko which has left its autographs at the Bratsk, Krasnoyarsk, Ust'-Ilimsk and other power stations of the nation, here at work are representatives from the Leningrad Elektrosila Association. The deputy chief designer of the plant for hydropower generators, Yu. Degusarov, stated:

"Plant production engineers, designers and shift foremen are presently at work on the banks of the Yenisey. Here the Sayano-Shushenskiy section of the hydropower generator shop of Elektrosila has been set up. We have the closest contact with the construction workers and assemblers."

The metal "skeleton" of the stator of the second unit is covered with an enormous canvas as it is being warmed up before welding. Then around the stator they will erect the so-called ring scaffold and winding will start. Then through a hollow core, the parts and assemblies of the turbine will be passed for assembly into the running part of the unit. At the moment when the stator, turbine and main shaft bearing are ready, the 900-ton rotor will be lowered into the crater of the hydropower unit.

The questions of designing and building a full-system fish farm which were also raised in the article will be worked out by the USSR Minenergo together with the USSR Gosplan in the course of creating the development plan for the complex

10272

CSO: 1822

ELECTRIC POWER AND POWER EQUIPMENT

NEWSPAPER EXPOSE PROMPTS BETTER TETS WINTER PREPARATION

Moscow PRAVDA in Russian 25 Aug 79 p 2

[Article: "Until the Frosts Burst Forth"]

[Text] The secretary of the Voronezh CPSU gorkom, V. Adashchik informed the editorial staff that the article published in PRAVDA on 3 July "Until the Frosts Burst Forth" was examined at the meeting of the gorkom office. It was acknowledged that the newspaper had correctly revealed the errors in the work of the communal services and a number of industrial enterprises in preparing for winter.

The office of the CPSU gorkom obligated the party raykons, ispolkoms of the city and rayon Soviets of People's Deputies to promptly eliminate the noted shortcomings, and to increase the exactions against the leaders of enterprises and organizations for the timely fulfillment of the planned measures to prepare the municipal services for winter.

As was correctly noted in the article, in the past heating period significant problems occurred in operating the TETs-2 of the administration "Voronezhenergo" of the enterprise of united boiler and heat networks. Currently in accordance with the decision of the party gorkom office, with the help of specialists from a number of plants repair of the power engineering equipment of TETs-1 and TETs-2 is actively underway. The enterprise of united boiler and heat networks has already prepared for winter 82 boiler houses of the 141, and 76% of the total number of heat networks have been washed and pressure-tested. The start-adjustment work is ending for assembly of the eighth boiler of the boiler house in the northeast rayon whose putting into operation will permit a 20% increase in its output.

The activity of the services and residential-communal sections of the Yomintorn and Dzerzhinskiy plants, plants of tires, radio parts, and the administration of the southeast railroad that were criticized in the article has been accelerated to repair and prepare for the cold season the departmental residential fund, schools and children's preschool institutions.

For the city as a whole the preparation for work in the fall-winter period will be completed by 15 September.

9035

CSO: 1822

ENERGY CONSERVATION

FUEL SUPPLY FOR GRAIN HARVESTERS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 9 Aug 79 p 1

[Article by K. Romashov, chief of the Administration of Fuel and Petroleum Management of the USSR State Committee for the Supply of Production Equipment for Agriculture: "Not an Hour of Idle Time During the Harvest Days"]

[Text] In the southern regions of the country the harvest is moving farther and farther to the east and the north. Hundreds of thousands of combines and tractors are working on the fields. Trucks with grain from the new harvest hurry along the roads. At the request of our correspondent K. Romashov, chief of the Administration of Fuel and Petroleum Management of the USSR State Committee for the Supply of Production Equipment for Agriculture, tells about how the harvest equipment is being supplied with fuel.

The preparation for the harvest time began back in the winter. Since February the shipments of fuel for the countryside have been carried out according to advanced monthly schedules. The two-shift hauling of petroleum products to the farms has been organized. By order of USSR Gosnab rural consumers have received preference over all other consumers. As a result by the start of the harvesting of the crop the kolkhozes and sovkhoses were able to create the reserves of fuel, which are necessary for carrying out the field work in the optimum time.

Now, when the harvest front is expanding with each day, the demand for fuel and lubricants has increased sharply. If the reserves are not replenished in due time, they might be quickly exhausted. Under these conditions the most precise observance of the delivery schedule is especially necessary. But it is not being fulfilled.

In July agriculture failed to receive in accordance with the schedule hundreds of thousands of tons of diesel fuel and gasoline. An especially tense situation has formed in Kazakhstan, a number of oblasts of the Urals and Siberia and in some rayons of the Volga River area. For example, more

than 500 tank cars with diesel fuel toward the quota were not shipped to Altayskiy Kray. The bulk plants of the Tatarskaya ASSR, Orenburgskaya, Kemerovskaya and Tyumenskaya oblasts did not receive on time a considerable amount of fuel.

The main reason for the formed difficulties is the delays in the transportation conveyer. The Ministry of Railways regularly does not fulfill the plan on the delivery of empties to the filling points. According to the operational data that we have, during July the railroad workers failed to turn over toward the plan more than 17,000 tank cars for light petroleum products. This complicated the work of petroleum refining enterprises. Many thousands of tons of fuel, which awaited shipment, accumulated at the refineries of Ufa, Volgograd and Kuybyshev due to the lack of rolling stock.

Since the second half of last month the supply of agriculture with diesel oils has worsened. The USSR Ministry of the Petroleum Refining and Petrochemical Industry has not fulfilled their month plan of shipment. The petroleum refineries of Azerbaijan and the Orsknefteorgsintez Production Association are not coping with the set assignments on the production of these products.

The continuous supply of harvest equipment with fuel to a considerable extent depends on the strict observance of the policy of economy of petroleum products at the farms themselves. Much is being done to reduce the losses of fuel and lubricants during their storage, the refueling of machinery and transportation. Specialized shops for the repair of the equipment of kol-khoz and sovkhoz tank farms have been set up in the system of the State Committee for the Supply of Production Equipment for Agriculture. As compared with last year the number of farms accepted by our enterprises for maintenance has increased greatly. Their number throughout the country is now approaching 20,000. This advanced form of maintenance is used especially extensively in the Ukraine, Belorussia, the Baltic republics, Krasnodarskiy and Stavropol'skiy krays and a number of oblasts of the central zone of the RSFSR.

At the same time it must be confessed that the reserves for economy are far from being taken full advantage of. Much fuel is being wasted due to faulty equipment of the petroleum managements. This year USSR Gossnab allocated to agriculture one-tenth as many spare parts as need for fuel pumps and standard measuring tanks. This question has already been repeatedly discussed at various levels, but a change for the better is not yet evident.

During the busy days of the harvest every hour is valuable to the farmer. It is necessary to overcome as quickly as possible the July lag behind the schedule of fuel deliveries to the workers of the countryside and to reliably close all the channels for losses. The harvest equipment should operate with a full load.

7807
CSO: 1822

ENERGY CONSERVATION

PETROLEUM CONSERVATION IN BELORUSSIAN AGRICULTURE

Moscow SOVETSKAYA BELORUSSIYA in Russian 6 Sep 79 pp 1, 3

/Article: "On the Improvement of the Use of Petroleum Products in Agriculture"/

/Text/ In the decree adopted on this matter the Belorussian SSR Council of Ministers notes that the soviet and agricultural organs of the republic are performing work on the organization of the economical use of fuel and lubricants in agriculture. Many kolkhozes, sovkhozes and other agricultural enterprises and organizations have achieved a reduction of the consumption of petroleum products per unit of performed work.

At the same time serious shortcomings still exist in the use of petroleum products in agriculture. At a number of kolkhozes, sovkhozes and other enterprises and organizations of agriculture, water resources and agricultural equipment the procedure of the planning and distribution of fuel and lubricants is being violated, the accounting of petroleum products is being neglected and great losses of them are occurring due to the unsatisfactory state of the equipment and the tank farm management and the uncontrolled use of machinery. Many farms are grossly violating the regulations on the storage of fuel and lubricants, at some of them the overstatement of the rates of consumption, as well as the use of petroleum products not for their direct purpose are occurring. Frequently petroleum products are sold to non-agricultural organizations. The fuel consumption rates are not always reported to the farms in differentiated form. The analysis of the use of petroleum products, the detection and elimination of the causes of the excessive consumption are not being used in practice.

The managers of farms and agricultural organs and some rayon ispolkoms have acquiesced in the wasteful use and storage of petroleum products. The Belorussian SSR Ministry of Agriculture and the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture have also not taken adequate steps to put this matter in the proper order.

Proper attention is not being devoted to tank farm management. The Belorussian SSR Ministry of Agriculture, the Belorussian SSR State Committee for

the Supply of Production Equipment for Agriculture, the oblast ispolkoms and many rayon ispolkoms have not ensured the fulfillment of the assignments on the construction of tank farms, which were set by the decree of the Central Committee of the Communist Party of Belorussia and the Belorussian SSR Council of Ministers of 9 November 1977. During 1977-1978 only 184 tank farms were built in the republic with an assignment of 750.

The Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture is not implementing satisfactorily the decrees of the Central Committee of the Communist Party of Belorussia and the Belorussian SSR Council of Ministers of 4 February 1974 and 9 November 1977 in the area of the organization of the repair and maintenance of the equipment of the tank farms of kolkhozes, sovkhoses and other state agricultural enterprises and organizations, as well as the assurance of the centralized delivery of all types of petroleum products from the bulk plants of petroleum marketing organizations to the farms. Only half of the tank farms of kolkhozes and sovkhoses are covered by maintenance. In 1978 only 78 percent of the fuel and lubricants were supplied centrally to the farms, on 20 August of this year--57 percent, and in Gomel'skaya and Mogilevskaya oblasts--only 37 percent.

When releasing petroleum products to consumers Belglavneftesnabsbyt allows their mixing according to grades, brands and percentage of sulfur. The cleaning of the tanks at the bulk plants is carried out extremely rarely, which leads to the contamination of the petroleum products. All this causes the excessive consumption of fuel, the premature wear of equipment and the increase of the cost of its repair and maintenance.

For the purpose of improving the use of petroleum products in agriculture and to execute the decree of the USSR Council of Ministers of 15 July 1979 the Belorussian SSR Council of Ministers resolved:

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR Ministry of Land Reclamation and Water Resources and the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture jointly with the oblast ispolkoms and with the participation of scientific research institutes are to draw up and implement in 1980-1985 measures on the reduction at kolkhozes, sovkhoses and other state enterprises and organizations of agriculture, water resources and agricultural equipment, as well as at interfarm enterprises and organizations of the consumption of petroleum products by means of the improvement of norm setting and accounting, the introduction of improved forms of the use of equipment and the improvement of its technical condition, the consolidation of the material and technical base of the tank farm management, the stepping up of the monitoring of the consumption of petroleum products and the prevention of losses of them during storage, reception, release and transportation.

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR Ministry of Land Reclamation and Water Resources, the Belorussian SSR State Committee

for the Supply of Production Equipment for Agriculture, Belmezhkolkhozstroy, the oblast ispolkoms and rayon ispolkoms are to ensure the rational use, proper accounting and storage of fuel and lubricants at all kolkhozes, sovkhoses and other enterprises and organizations of agriculture, water resources and agricultural equipment and not to allow the consumption of petroleum products not for the direct purpose. They are to increase the exactingness on all managerial personnel for the strictest observance of state discipline in this matter.

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture, the Belorussian SSR Ministry of Land Reclamation and Water Resources, the Belorussian SSR Ministry of Rural Construction, Belmezhkolkhozstroy, the oblast ispolkoms and rayon ispolkoms are to take immediate steps on the fulfillment of the assignments on placing tank farms into operation in 1979-1980, which were established by the decree of the Central Committee of the Communist Party of Belorussia and the Belorussian SSR Council of Ministers of 9 November 1977, and to ensure in 1981-1984 the construction and modernization of the tank farms at kolkhozes, sovkhoses and other enterprises and organizations of agriculture in accordance with the appendix, as well as the construction and modernization of the tank farms at enterprises and organizations of water resources in amounts which satisfy the total demand for these tank farms.

The Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture is to ensure in 1980-1985 the construction and modernization at the organizations subordinate to the committee of 50 tank farms with a total capacity of 99,000 m³.

The Belorussian SSR Gosplan and the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture must ensure the delivery of fuel pumps and oil dispensers, tanks for petroleum products, shut-off equipment, cable products and other equipment in conformity with the plan of the construction and modernization of tank farms.

The construction and modernization of tank farms at kolkhozes are entrusted to the interkolkhoz construction organizations, while at sovkhoses and other state enterprises and organizations of agriculture, water resources and agricultural equipment they are entrusted to the Belorussian SSR Ministry of Rural Construction.

The Belorussian SSR Ministry and the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture must elaborate jointly with Belglavneftesnabsbyt and the oblast ispolkoms with the participation of scientific research institutes and confirm in 1980 with the approval of the Belorussian SSR Gosplan measures on the further development and improvement of the tank farm management of kolkhozes, sovkhoses and organizations of agricultural equipment for the period up to 1990.

The Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture should implement urgent measures on the assurance in 1979 of the maintenance of the equipment of the tank farms of all kolkhozes, sovkhoses and other enterprises and organizations of agriculture, and beginning in 1981 accept for such maintenance the tank farms of the organizations of the Belorussian SSR Ministry of Land Reclamation and Water Resources.

Belglavneftesnabsbyt, the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture and the Belorussian SSR Ministry of Agriculture must take exhaustive steps on the more complete supply of kolkhozes, sovkhoses and other state agricultural enterprises and organizations with the necessary grades of diesel fuel, gasoline and oils and must observe strictly the established regulations on the receipt, storage and release of petroleum products to consumers, without allowing their mixing by grades.

The Belorussian SSR Ministry of Agriculture and the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture jointly with scientific research institutes and the Belorussian SSR Academy of Sciences in a three-month period must ensure the elaboration and submission to the Belorussian SSR Council of Ministers of proposals, which have been agreed upon by the Belorussian SSR Gosplan, on the maximum possible replacement of light petroleum products, which are used as fuel in heat generators, steam boilers, units with self-contained furnaces for the preparation of grass meal and the drying of agricultural products, as well as in other units with furnaces, by other types of fuel and power.

In order to strengthen the staff of subdivisions for the distribution of petroleum products and the monitoring of their consumption in agriculture the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture is permitted to increase the number of workers of the central staff by three units with a wage fund of 380 rubles a month and expenditures on their salaries in 1979 by 1,700 rubles, including the wage fund by 1,300 rubles, and of the oblast production associations for the supply of production equipment for agriculture by two units each, without a change of the plan on labor and the maximum allocations for the salary of the staff of the administration, which have been set for the committee.

The Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture is granted the right, where necessary, to increase the number of workers of the rayon production associations for the supply of production equipment for agriculture by one unit, without a change of the plan of labor, the maximum allocations and the current number of workers of the staff of the administration of the committee.

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR Ministry of Land Reclamation and Water Resources and Belmezhkolkhozstroy are ordered to examine and resolve the question of strengthening the staff, where this necessary, of the subdivisions for the distribution of petroleum products

and the monitoring of their consumption in agriculture within the limits of the allocations stipulated for the maintenance of the organs of administration.

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR Ministry of Land Reclamation and Water Resources, the Belorussian SSR State Committee for the Supply of Production Equipment for Agriculture, Belmezhkolkhozstroy and the oblast ispolkoms must ensure the training in the necessary numbers, as well as the improvement of the skills of the personnel for the storage, accounting and use of petroleum products in agriculture.

7807

CSO: 1822

ENERGY CONSERVATION

KUZBASS ELECTRIC POWER CONSERVATION

Moscow IZVESTIYA in Russian 24 Aug 79 p 2

[Article by Secretary of the Kemerovskaya Oblast Committee of the CPSU V. Sitnikov (Kemerovo): "The Fund of Economy"]

[Text] The rebuilding of the roasting furnaces at the Novokuznetsk Santeckhit Plant was carried out for the purpose of increasing the output of products, improving their quality and increasing the labor productivity. It performed this work mainly on its own. And here is what is noteworthy. In solving the complicated technical problem, the collective, figuratively speaking, did not forget for a minute to look at the plant electric meter. As a result it turned out that the renovated shop considerably increased the capacities, while the consumption of electric power decreased by 340,000 kWh a year.

The industrial Kuzbass greeted the decree of the CPSU Central Committee, "On the Organizing and Political Work of the Kemerovskaya Oblast Committee of the CPSU on Saving Fuel and Energy Resources at Enterprises and Construction Projects of the Oblast," as a battle plan of actions and concentrated efforts on the mobilization of reserves in all spheres of economic activity. Hundreds of thousands of workers, engineers and technicians, rationalizers and inventors, planning institutes and design bureaus are taking part in the economy drive. The competition has embraced all the sectors of industry, agriculture and transportation. It has become widespread in personal services and trade. And it is a rare housewife who leaves a light burning in an empty room. If this happens, her son or daughter will remind her and correct the mistake. They both belong to the "Pioneer meter."

Everything is right. Economy is not only the founding method of socialist management, but also the first duty of the Soviet individual, which is recorded in the Constitution. As practice confirms, the improvement of production technology and the modernization of an enterprise on the basis of the latest equipment reveal enormous reserves for saving electric power. In recent years the workload at the operating face has been increased considerably at the mines of the basin. The working and preparation sections have been converted to a greater load, the unproductive drag conveyers have

been replaced by belt conveyers, the operation of the hoisting and compressor equipment has been put into order and efficient systems of the ventilation of the mine shafts have been assimilated. By means of this the unit consumption of electric power per ton of mining has been reduced to 23.3 kWh. This is 24 percent lower than on the average for the sector.

The collective of the Novokuznetsk Aluminum Plant is purposefully carrying out the reequipping of the electrical system. The mercury rectifiers here have been replaced by semiconductor, silicon rectifiers, the busbar of the baths in the electrolysis shops has been strengthened. Last year the plant on the conversion of the current alone decreased the losses by 92 million kWh. There are many similar examples. In the oblast 56 percent of the steel is smelted by the converter method, which according to the expenditures of electric power is nearly twice as economical as the open hearth method. The use of natural gas afforded chemical workers extensive prospects. The modernization of the Tomusinskaya GRES was carried out successfully. Coal from Khakasiya, which was considered almost worthless, is now burned in its boilers instead of high quality Kuzbass coal. In three years of the five-year plan the workers of the oblast have saved more than 870 million kWh of electric power and 718,000 tons of conventional fuel.

The competition for the economy of fuel and energy resources is being enriched with advanced know-how, at the same time it is a school of education of the personnel, a form of the collective struggle for the increase of labor productivity. Commissions for monitoring the rational use of electric power have been set up in the party committees and party bureaus of enterprises. The workers are provided with special handbooks, in which it is told in popular terms how, by means of what it is possible when performing a given operation to decrease the consumption of electric power. The patriotic movement under the motto "Each is an economist at his work place" has achieved extensive scope at the enterprises. Many workers, engineering and technical personnel have opened personal accounts of economy. Such accounts exist at associations and in the sectors of industry. An all-Kuzbass fund of economy has been set up.

The questions of the economical consumption of energy resources are regularly discussed at workers' and party meetings, at the plena of the raykoms and gorkoms of the party, at the sessions of the soviets of people's deputies. The analysis makes it possible to focus attention on unutilized potentials and to find a solution to the problem. But the possibilities are great. At the Kemerovo Byproduct Coke Plant and the Kuznetsk Metallurgical Combine, for example, due to the poor insulation of the equipment and pipes the secondary heat is being poorly utilized. Sometimes motors with an excessive rating are installed. Mismanagement and wastefulness have taken firm root here and there. It is impossible to shut our eyes to this.

Negative phenomena, the elimination of which is beyond the competence of oblast organs, are also encountered. The participation of ministries, departments and Gosplan is required here. Take the organization of the

technical control of the consumption of energy resources. So far experimental statistical, that is, average approximate norms have been in effect at the enterprises instead of scientifically sound norms. All of us have become accustomed to the electric meter in our apartment, which counts off our debt in kopecks to municipal services. But how much electric power does a walking excavator in a coal pit consume? A machine tool in a plant? A powerful mechanized unit in a mine? No one knows this even approximately. We do not have the measuring instruments for this. There is one electric meter for the entire plant. It records how much and when the electric power was drawn from the state power grids, but how is it distributed by shops and units, where is it being saved, and where is it being wasted?

The question is far from pointless. Competition presumes the comparability of the results, a specific end result. In rail transport the engineer knows ahead of time that an extra stop along the way means a loss of 500 kWh. If the train is underloaded by only 1 percent, the irretrievable losses in a day of its travels reach 15,000 kWh. The recording of the return of electric power to the network during regeneration has been set up accurately. Therefore, the work of the engineer is as if in view of everyone. It is possible to calculate who is ahead and who is still lagging. A machine tool operator, in introducing an advanced method of metalworking and changing the geometry of the sharpening of the cutter, can only guess how the plant electric meter will react to these actions and what it will record on its dial.

Agriculture has become a major consumer of electric power. In Kemerovskaya Oblast the power-worker ratio in the countryside has reached 29 hp and continues to increase. High-power livestock complexes, which are saturated with modernized equipment, electrified threshing floors and grading points, storehouses for seed potatoes with forced ventilation and the automatic regulation of the microclimate are being built. There are tens and hundreds of electric motors on a farm. But even here there is only one electric meter. Check who takes what they need and who does not save.

At times it is difficult to blame the director of a plant or sovkhos for anything. The mines of the basin last year requested 2,050 electric meters, considerably fewer than actually required. However, USSR Gossnab did not accept this reduced order for filling. It is impossible to put up with this. Both because the equalizing distribution of power resources, which in essence is uncontrolled within the enterprise, hinders the search for reserves on a truly extensive level and eliminates the personal responsibility at the busiest spots of production. And also because with a lack of control of the work it is practically impossible to establish an economic and moral incentive for the saving of electric power.

We are taking steps to set up the production of electric meters, particularly of explosion-proof design at the machine building plants of the oblast. The development of the designs has been assigned to our scientific research institutes. But this is not the complete solution of the problem. After all, not only mines need measuring instruments. There are no meters which

could operate in the corrosive environment of chemical plants, under the conditions of an elevated temperature. And here it is not a matter of the technical complexity of their production. It is difficult, it turns out, to cross the threshold of inertness, the lack of departmental coordination.

Serious shortcomings are being tolerated in planning. Some enterprises are constantly in debt, although they are earnestly engaged in saving electric power. Others save millions of kWh of it without obvious effort. Often the excessive consumption of energy resources is incorporated in the plan. The walls of buildings and structures in Siberia have clearly been made narrow. They are unreliable protection against the cold here, the boilers have to be heated to capacity. So the one-time saving obtained by the builders on materials are turning into perennial enormous losses for the operators. Indeed, I do not want to recognize as a success the plan of the Belovskaya GRES, where hot water is dumped into the river, while the nearby city of Belovo is heated by means of local boiler houses.

The reorganization of the power service of enterprises involves some material expenditures. In each case everything must be weighed and considered. But in principle there is something here to think about. The power inputs for some types of chemical products now make up 20-25 percent of their production cost. However, the managers are actually deprived of the opportunity to effectively influence the formation of this most important economic indicator. When it comes to the extraction of energy resources, our system of accounting works irreproachably. For both the brigade and the mine the result is tallied by shifts and for the day. The real output of electric power is known for each hour. Very good. The balance sheet of the consumption of energy resources at a plant is compiled once a quarter. How in this case are the shortcomings detected and eliminated in due time?

In spite of some successes in saving energy resources, we should admit that we have taken only the first steps in the necessary direction. The need for fine, striking commercial advertisement does not cause anyone doubt, but what sense does it make for neon lights to blaze in the middle of the night? For at that time the customers are asleep. In Novokuznetsk the supply of drinking water to the city, and then its pumping into the sewer system both day and night are carried out at the same rate: 170,000 m³ a day. This is senseless. Pointless! A burning neon halo above a store is 28,000 kWh wasted on lighting the stars. Water leaks in apartments, which the city municipal services have not eliminated, turn into losses of hundreds of thousands of kWh.

In the decree of the CPSU Central Committee and the USSR Council of Ministers, "On the Improvement of Planning and the Intensification of the Influence of the Economic Mechanism on the Increase of Production Efficiency and Work Quality," the need for the rational use of material resources, the intensification of the policy of economy and the elimination of losses in the national economy is stressed. This also applies to the economical consumption of electric power. To save does not mean to deny oneself something

necessary in production or daily life. To save means to wage a struggle against the pointless, wasteful consumption of energy resources. And here we should be completely consistent and irreconcilable.

7807

CSO: 1822

ENERGY CONSERVATION

NATURAL GAS CONSUMPTION IN INDUSTRY

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 25 Aug 79 p 2

[Article by A. Voytenko, chief of the USSR State Gas Inspectorate: "The Cost of a Precise Measure"]

[Text] The inspectors of USSR Gosgaznadzor [State Gas Inspectorate] were extremely amazed when, in checking the report on the use of natural gas at the Khar'kov Avtozapchast' Plant, they discovered the phenomenal (judging from the documents) achievements of the plant power engineers: on the production of each gigacalorie of heat, depending on the type of equipment, they expended from 131 to 90 kg of conventional fuel. For reference: in order to reduce the unit rate of consumption of fuel to such amounts, boiler units would be needed with an efficiency from the realm of reckless fantasy--109-159 percent! In other words, if we believe the documents, the Khar'kovites have thoroughly shaken the foundations of classical physics, which claims that the efficiency even of the most ideal machine cannot reach 100 percent.

The inspectors, who were familiar with the principles of physics, decided that the instruments were faulty. But after examining the plant heating system they realized that there was an unconcealed "forgery" in the reports. At the enterprise there were neither instruments which record the consumption of gas nor instruments which register the amount of generated thermal energy. The figures were taken out of the blue.

The energy resources of our country are great. The extraction of gas, for example, is increasing at a rate which outstrips the plans. This year it will reach the level planned for 1980--more than 400 billion m³. But the demands are growing even more rapidly. The role of this highly efficient energy carrier both as a fuel and as an industrial raw material in nearly all the sectors of the national economy is becoming more and more significant.

Now more than 21,000 industrial enterprises are using natural gas for certain needs or others. Last year they consumed more than 320 billion m³ of it. It is not difficult to image the scale of the waste, if at each of them

they "worried" about the rational consumption of gas in the same way as they did at the Khar'kov Avtozapchast' Plant.

What is the situation as a whole? Last year the organs of USSR Gorgaznadzor inspected 2,500 enterprises of 7 ministries. At 1,230 of them, as a result of inefficient use, the excessive consumption of fuel gas was 440 million m³ as compared with the established standards. The waste at enterprises of housing and municipal services was the greatest: they used 95.4 million m³ too much. After them come the USSR Ministry of the Petroleum Refining and Petrochemical Industry, the USSR Ministry of the Timber and Wood Processing Industry, the Ministry of the Automotive Industry, the Ministry of Heavy and Transport Machine Building and the Ministry of Chemical and Petroleum Machine Building.

The situation, as is evident, gives cause for serious anxiety. However, even the words "excessive consumption" are not present in the annual reports of ministries and departments. On the contrary, according to the documents it turns out that all the enterprises, as a rule, are ensuring the saving of gas, which was set by directive bodies. Where do the satisfactory reports, which do not reflect the true state of affairs, come from?

An analysis shows that in most instances the unreal economy is formed where the unit rates for the consumption of gas have been set too high. Thus, for example, it is possible to determine the degree of economy of the operation of thermal power plant No 1 in Kutaisi, if the unit rate set for it is intended for boilers with an efficiency of not more than 80 percent, but are there really units there with an efficiency of more than 90 percent?

In the system of the RSFSR Ministry of Housing and Municipal Services rates have not been established for the heat boiler houses of 132 of the 520 enterprises checked by the inspectorate. And for all the ministries and sectors of the national economy, in which a check was made last year, at 435 enterprises it turned out not to be known how much fuel they should expend on obtaining each gigacalorie of heat. Is it possible to seriously expect a real saving there?

The formal attitude toward norm setting at times reaches the absurd. At 29 enterprises of the Ministry of the Automotive Industry the recording to the generated thermal energy has not been set up and, consequently, it is impossible to calculate how much gas must be used to obtain it. Nevertheless the ministry planned for these plants for 1978 a saving of 1,833 tons of conventional fuel, as well as 15,500 gigacalories of heat. No one knows where these figures came from.

The ministries and departments are obligated to establish and report to the subordinate enterprises the unit rates of consumption of fuel. Meanwhile the cited cases attest that they are coping poorly with this obligation. So far at many enterprises either the rates are not sound or they do not exist at all.

One of the main reasons is the shortage of gas meters. The annual demand for their more widespread version with a resolution of 40 to 100 m^3 an hour is on the order of 30,000 units, but the plants of the Ministry of Instrument Making, Automation Equipment and Control Systems are producing only 8,000. Estimates show, however, that given this shortage the available meters are quite adequate to install them if not on each individual unit, at least in each large shop, at each enterprise. Nevertheless, at 310 of the enterprises checked by USSR Gosgaznadzor there is not even plant-wide accounting. And without accounting, without special instruments a serious search for reserves for saving fuel is practically impossible. And in general it is impossible to understand in what condition the heating equipment of various types is: is the gas completely burned in them or does a considerable portion of it escape into the air?

During the checks our inspectors establish numerous cases of the unsatisfactory operation of gas-consuming equipment. Basically they reduce to malfunctions of the automatic equipment which regulates the combustion processes, the failure to observe the conditions of combustion and the lack of schedule cards. Large material expenditures are not needed to eliminate these shortcomings. It would be possible to save billions of cubic meters of gas.

At the same Ministry of the Automotive Industry, as a result of operating gas-consuming devices not in the optimum mode, the annual losses are about 50 million m^3 . And all the losses for the sector exceed 200 million m^3 a year. For the country as a whole, according to the data of the All-Union Scientific Research Institute of the Gas Industry, due to incomplete combustion alone the annual losses of gas are not less than 14-15 billion m^3 . This is equal to the extraction of "blue fuel" at such a major deposit as the Vuktyl deposit!

Of course, Gosgaznadzor does not overlook such cases. The units at the Stroydetal' plants of the USSR Ministry of Heavy and Transport Machine Building in the cities of Yenakiyev and Gorlovka and the experimental machine plant in the city of Stakhanovo were sealed up for the wasteful use of gas. The fines for excessive consumption at the enterprises of Voroshilovgradskaya Oblast during the fourth quarter of last year alone were 1,596,000 rubles. In Donetskaya Oblast--at the Azovstal' Plant and the Plant imeni Il'ich--the amounts of the fines for each enterprise exceeded 900,000 rubles.

But the effectiveness of these measures is comparatively low. Obviously it is worth thinking about increasing the effectiveness of fines. Now, in essence, the money is being transferred from one state pocket to another. Considerably greater results, in our opinion, could be achieved if we punished with the ruble the specific culprits--the chief power engineers and managers of the enterprises.

At the same time it is necessary to disseminate more vigorously the advanced know-how of the economical use of natural gas. There is, for example, also

someone to learn from in the automotive industry. It is the Moscow Motor Vehicle Plant imeni Leninskogo komсомола, one of the best enterprises of the capital in the efficiency of the use of energy resources. The power service of the Moscow Motor Vehicle Plant imeni Leninskogo komсомола has set up strict accounting for the generation of heat and the consumption of gas, the engineers and worker-innovators are actively participating in the search for reserves of economy. During the first half of this year the collective saved 108 tons of conventional fuel. But the Ministry of the Automotive Industry, other ministries and departments are poorly disseminating this know-how.

The proportion of natural gas in the total volume of all types of fuel has now reached 24 percent and continues to increase. Each percent of waste, thus, is becoming more and more significant. This makes special demands on the rational use of one of the most valuable natural resources of the country. And we must begin with the most essential thing--accounting.

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CSO: 1822

ENERGY CONSERVATION

KAZAKH SSR FALL-WINTER ENERGY SITUATION SURVEYED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 15 Aug 79 p 3

[Unsigned article: "Supply the Economy and the Public with Fuel"]

[Text] The Central Committee of the Communist Party of Kazakhstan and the republic's council of ministers have examined the problem of providing the economy and the public with fuel, electrical and thermal energy during the fall-winter period of 1979-80. It has been noted that a number of the republic's ministries and departments, obispolkoms, and the Alma-Ata Gorispolkom did not completely supply industry and municipal-domestic enterprises with fuel, thermal and electrical energy during the fall-winter period of 1979-80.

Some managers allowed carelessness in the preparation of electrical stations and other industrial enterprises and other organizations for work in winter conditions. All this led to substantial reductions in the development rates of a number of industrial sectors and in construction. The administrations of Alma-Ata and Tselinaya railroad lines did not supply freight cars to the coal industry to dispatch fuel in accordance with the delivery schedules ratified by the plan. The Kazakh SSR Ministry of Power and Electrification insufficiently supervised the work of electrical stations and their preparation for the heating season.

The Central Committee of the Communist Party of Kazakhstan and the republic council of ministers have obligated ministries and departments, obispolkoms and the Alma-Ata Gorispolkom, the republic's railroad line administrations, industrial associations, and enterprises of union subordination to ensure the making up of the shortcomings allowed in the extraction, production, and processing of fuel, the accumulation of fuel reserves at electrical stations, enterprises and organizations, and to fulfill and overfulfill the planned targets for 1979, to continuously increase the fuel-energy and raw material resources necessary for the dynamic development of the republic's economy during the fall and winter of 1979-80.

Ministries and departments, obispolkoms, and the Alma-Ata Gorispolkom, as well as managers of economic organizations and enterprises are obligated to do the following:

Prepare mazut storage facilities, and storage and warehouse capacity for receiving and storing all types of fuel; conduct timely repair of power engineering facilities, boiler systems, electrical, water pipe, and sewage networks, snow removing equipment, as well as of residences, schools, hospitals, childrens' preschool, cultural-educational and municipal-domestic institutions, trade enterprises, production buildings and installations. During August-September conduct an inspection of preparedness for operations in fall-winter 1979-80. The results of inspection are to be discussed and operational measures taken to eliminate the shortcomings revealed.

Increase the level of scheduling of freight transportation, reduce established norms for freight costs and tank car idle time at railroad sidings.

Continuously supply the public with fuel of the appropriate quality promptly transport the necessary quantity of coal, firewood, domestic stove fuel, and liquified gas to storage facilities of trade and other organizations in cities and rural localities.

Increase the procurement and utilization of local types of fuel.

Develop and implement measures to save fuel, electrical and thermal energy and petroleum products and organize the strict supervision over the observance of norms for the consumption and rational utilization of fuel and energy resources.

By 1 October 1979 and 1 January 1980 create the established reserves of coal and heating mazut a subdepartmental associations and industrial enterprises, organizations, and institutions. Also develop and ratify local schedules for accumulating these reserves of coal and heating mazut.

Electrical stations and other enterprises and organizations are forbidden to consume fuel during August-September 1979 which is intended for creating reserves for the fall-winter period of 1979-80.

Jointly with the Alma-Ata Gorispolkom, the appropriate ministries and departments are entrusted with ensuring the prompt use of quarterly and annual funds for coal, firewood, gas, heating mazut, and other petroleum products and to take measures to increase their transportation to consumers prior to the beginning of the massive transportation of agricultural freight.

In order to create the necessary fuel reserves for the republic's economy in preparation for the fall-winter period of 1979-80 and ensure the continuous operation of electrical stations and other industrial enterprises; ministries and departments, obispolkoms, and the Alma-Ata Gorispolkom must do the following:

Reduce the consumption of coal, heating mazut, and thermal energy at enterprises, municipal-domestic organizations, and kolkhozes more than called for by the established target.

Prior to the beginning of fall-winter period of 1979-80 ensure the development and implementation of measures for reducing the use of thermal energy in each subdepartmental enterprise and organization.

The Kazakh SSR Ministry of Power and Electrification and managers of regional energy operations administrations and the Altayenergo energy production association are obligated to do the following:

Develop and implement measures to increase the reliability of electrical and thermal energy supply to consumers.

Intensify supervision over the fulfillment of targets for saving electrical and thermal energy by consumers, restricting the supply of this energy to enterprises and organizations allowing overconsumption of energy compared to established limits.

Prior to 1 September 1979 establish for rayon administrations of energy operations and the Altayenergo Association, limits for electrical power to consumers during the hours of peak loads during the IVth quarter of 1979 and the first quarter of 1980.

Ensure the accumulation of the established quantities of fuel reserves at electrical stations by 1 August, 1 September, and 1 October 1979, and 1 January 1980.

Prior to 15 October 1979 complete major repair of basic energy equipment and electrical power stations with a total capacity of 2.7 million kilowatts, and also repair electrical and thermal networks, water heating boilers, buildings and installations at energy facilities.

During 1979-1980 complete work at electrical stations to increase the productivity of water treatment facilities at water feed installations of heat supply systems in order to eliminate the shortage of chemically purified water during the fall-winter period.

Fulfill the 1979 planned targets for the reconstruction of the fuel supply system at the Kyzyl-Ordinskaya TETS-6 and for the introduction of cooling tower No 3 at the Dzhambulskaya GRES, as well as implement measures to ensure reliable operation of fuel-transportation operations at the Yermakovskaya GRES.

The republic's Ministry of Power and Electrification and the Ministry of Construction Heavy Industry Enterprises are to ensure the September 1979 introduction of mazut storage facilities with a capacity of 5,000 tons at the Rudnenskaya TETS and for 6,000 tons at the Chinkentskaya TETS.

The Karagandaugol' and Ekibastuzgol' production associations and the Alma-Ata and the Tselinaya railroad lines should ensure the dispatch of an additional 80,000 tons of Ekibastuz coal from shafts, pits, and cleaning facilities during the IIIrd quarter of 1979, and in the I th quarter of 149,000 tons of Karaganda and 101,000 tons of Ekibastuz coal.

During the second half of 1979 the Ekibastuzgol' production association and the Tselinaya Railroad Line Administration should extract and transport an additional one million tons of Ekibastuz coal above the plan for electrical stations of the USSR Ministry of Power and Electrification.

The Alma-Ata, West Kazakhstan, and Tselinaya railroad line administrations should:

Develop and implement additional measures directed at fulfilling the IIIrd and IVth quarter plans and additional targets for the transportation of coal, petroleum, and petroleum products.

In order to transport Ekibastuz coal to the republic's electrical stations, form, in the established procedure, the necessary circular closed freight routes on the Tselinaya Railroad Line.

The administrations of the Tselinaya and Alma-Ata railroad lines must constantly supervise the operation of the Ekibastuz circular closed routes.

Other measures for supplying the public and the economy with fuel, electrical and thermal energy during the fall-winter period of 1979-80 were also outlined.

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CSO: 1822

ENERGY CONSERVATION

FUEL, ENERGY CONSERVATION IN CONSTRUCTION INDUSTRY

Moscow STROITEL'NAYA GAZETA in Russian 8 Aug 79 p 1

/Editorial: "Save Fuel and Energy"/

/Text/ The tasks set by the 25th party congress--to improve the system of norm setting, accounting and consumption of fuel and energy resources, to step up the monitoring of their use and to struggle against wastefulness and mismanagement--are given concrete form in the decrees of the CPSU Central Committee and the USSR Council of Ministers, "On Supplying the National Economy and the Population With Fuel, Electric Power and Thermal Energy During the Fall-Winter Period of 1979-1980" and "On the Improvement of Planning and the Intensification of the Influence of the Economic Mechanism on the Increase of Production Efficiency and Work Quality."

All the workers of our sector have perceived the decrees as a guide to action. The reserves for saving fuel and energy in construction are enormous, since it is one of the most power-consuming sectors of the national economy.

Many labor collectives, which are showing an example of an assiduous, thrifty attitude toward resources, have gained valuable experience. First of all we must mention the collective of the Sebyakovskiy Cement Plant, which is displaying perhaps the most effective means of developing untapped reserves. Here they are taking the path of improving production and the processing method, tightening up discipline and making accounting and monitoring stricter.

Good achievements and interesting experience in saving fuel and energy resources exist in all the ministries and departments. But, unfortunately, it is being poorly disseminated. The losses of fuel and power are still large. A great overconsumption has been noted at the construction projects of the USSR Ministry of Construction of Petroleum and Gas Industry Enterprises and the USSR Ministry of Industrial Construction in Tyumenskaya Oblast. The situation is bad at many organizations and enterprises of the USSR Ministry of Construction of Heavy Industry Enterprises. And an especially alarming situation has formed at the construction projects of Siberia and the Far East.

Departmental estrangement is a great hindrance. Each of the construction organizations, which belong to different ministries and departments, has its own supply bases. No one is coordinating the shipments and release of motor fuel and fuel to consumers. Therefore the accounting and monitoring have become lax. Obviously, the problem must be solved centrally.

However, this does not in the least relieve the construction ministries and the organizations subordinate to them of responsibility, because the economical and efficient use of fuel and energy resources is organized precisely at the local level, in the administrations, sections, brigades and enterprises of the construction industry. The situation is the worst at plants, but after all, precisely they consume the most energy and fuel. The losses are explained by the fact that the optimum operating conditions of the equipment and the processing methods are not being observed, old uneconomical units and engines are in operation at the shops, the facilities are poorly heated.

Particular attention must be devoted to this aspect of the work which is aimed at saving resources. "Accounting and monitoring," V. I. Lenin emphasized, "are the main economic task." But what accounting and monitoring of the economical consumption of fuel and energy resources can be spoken about, if at the plants and construction sites there are no elementary flowmeters and electric meters and the procedure of accounting is violated everywhere? The construction organizations and the enterprises of the construction industry should promptly eliminate these shortcomings, while supply organs must show concern about providing them with monitoring and measuring instruments.

The tasks stemming from the decrees of the CPSU Central Committee and the USSR Council of Ministers concern to the greatest extent the USSR Ministry of the Construction Materials Industry as the largest consumer of heat, fuel and electric power in our sector. Its efforts are aimed at the mass involvement of enterprises in the all-union review of the efficiency of the use of raw materials, materials and fuel and energy resources. And gains have been made in this direction. The Gomel' Glass Plant imeni M. V. Lomonosov is among the collectives which were awarded Red Banners of the AUCCTU, the Komsomol Central Committee and USSR Gosstnab for winning in the review. The initiative, with which the collectives of the Gomel' Plant, the Akmyane Cement and Slate Association, the Slavyansk Ceramics Combine and the Krasnoyarsk Cement Plant came out, merits dissemination. They have pledged during the second half of the year to reduce considerably the consumption of energy resources.

Effective means have been chosen for achieving the goal. They include the improvement of the processing method, the automation of production processes, the modernization and equipment of shops with instrumentation and the revision of the rates of consumption in the direction of making them stricter. It is now important to back the organizational and technical measures with mass political and educational work in the collectives.

The reserves for saving fuel and energy exist everywhere, in all the sections of production, at each work place, in the sphere of everyday life. Right now it is necessary to launch active preparation for the winter, to see to it ahead of time that all the projects being built are prepared for work during the cold period of the year, that all the sections of production are provided with heat and power, while the builders are provided with comfortable and well-appointed housing.

A thrifty attitude toward resources is the duty of all construction workers. Everyone using fuel and power is obliged to try to decrease the losses. And here an enormous role belongs to trade union organizations and members of the People's Control. They should hold mass reviews and include the millions of construction workers in the drive for economy. Efficient organization, the increase of the personal responsibility of each worker for the section assigned to him and the determined struggle against mismanagement and wastefulness in the use of fuel and energy resources will ensure success.

The new scope of the socialist competition for economy and thrift is an important component of the successful fulfillment of the plans for the fourth year and the entire five-year plan.

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CSO: 1822

ENERGY CONSERVATION

EDITORIAL SUGGESTIONS FOR WINTER PREPARATION

Tallin SOVETSKAYA ESTONIYA in Russian 3 Aug 79 p 1

[Editorial: "Prepare Well for Winter"]

[Text] As is known, in winter of last year due to the strong frosts great difficulties emerged in supplying the national economy and the population with fuel, electricity and heat. The severe winter was a serious test, and on the whole it was passed. The collectives of the mines and open pits of the production association "Estonslanets" especially distinguished themselves; in winter they overfulfilled the assignment for shale extraction. The workers of the enterprises "Estonglavenergo" guaranteed the stable operation of the power engineering equipment and above-plan generation of electricity and heat. In many collectives of the enterprises, kolkhozes, sovkhoses and organizations a creative search was made for saving and economy of fuel and energy resources. Thanks to this additional assignments for their conservation were fulfilled on the whole for the national economy of the republic.

At the same time, a number of ministries and departments of the republic, and economic organizations had not prepared as they should have for the past fall-winter period, as a result of which difficulties arose in supplying heat to individual enterprises, organizations and services. Certain economic leaders were careless in preparing for winter individual industrial enterprises and organizations. This refers, for example, to the residential-communal services of Tartu and Pyarnu. Here there were irregularities in the supply of heat last winter.

Remembering the lessons of last winter, the party, soviet organs, ministries and departments, and economic leaders should guarantee the stable operation of all branches of the national economy in the fall-winter period. For this it is necessary primarily to successfully fulfill the assignments of this year for extraction and production of fuel. The workers of the association "Estonslanets" are showing an example in this respect; in the first 6 months they have extracted over 800,000 T of shale above the plan. The collectives of the peat mining enterprises must also speak up. The Estonian SSR Ministry of Local Industry must be concerned about the preparation and development of new cutting fields in accordance with the machinery of the enterprises. And the Ministry of Agriculture, Estonian SSR Goskomsel'khoztekhnika, and rayispolkoms need to significantly increase the felling of wood in the incorporated forests of the kolkhozes and

sovkhozes, as well as in those areas where drying and soil improvement work is underway. The Ministry of Forestry and Wood Working Industry is called upon to increase the production of briquettes made of wood-pulp wastes.

An urgent task of the ministries and departments of the republic, and the municipal and rayon Soviets of People's Deputies is to wisely prepare the power plants, electrical and heat networks, industrial enterprises, railroad, kolhozes and sovkhozes, as well as the public utilities in the cities and rural locality for reliable operation in the fall-winter period.

Is it necessary to speak of how important it is to set up continuous supply of good fuel to the population. Unfortunately, people frequently still cannot obtain briquettes, and wood, which causes a valid criticism by the population. It is necessary to deliver the required quantity of fuel in time to the storehouses of the trade and other organizations that release it to the population.

Of great importance is an economical attitude to the fuel and energy resources. At the same time, far from all of our enterprises, construction sites, organizations, kolkhozes and sovkhozes are fulfilling the assignments for saving fuel and electricity, and petroleum products. Thus, the service station of the Elvaskiy interrayon association of the Estonian SSR Goskomsel'khoztekhnika until recently has not been observing the basic rules for calculating the consumption of gasoline. On many road sheets, for example, there is a considerable residue of gasoline, double the capacity of the automobile tank. Last year here 9,000 liters of gasoline were illegally recorded. Or take such a fact. Recently the republic Committee of People's Control checked the fulfillment of the Estonian SSR Council of Ministers decree "On Measures to Improve the Organization of Collection and Use of Used Petroleum Products" adopted in 1976. It was found that a number of ministries and departments, and primarily the Glavneftesnab, Ministry of Automobile Transportation and Highways, and the production administration of "Estrybrom" have had a formal attitude to the fulfillment of the governmental decree, and as before thousands of tons of fuel are irreversibly lost.

It is necessary to set up the strictest control over the implementation of the planned measures for saving fuel, electricity and heat, and oil products at each enterprise, construction site, in each service and organization. A great role in this matter belongs to the organs of people's control who are called upon to intensify control over the consumption of fuel and energy resources, as well as the observance by the enterprises of the established norms for unloading cars and tanks, and to hold the workers guilty of poor management strictly responsible.

All the work conducted by the economic organs for the timely and complete fulfillment of the assignments stipulated by the corresponding decrees of the CPSU Central Committee and USSR Council of Ministers should be put

under the unrelenting control of the party organizations. Each labor collective and all the citizens need to be involved in the implementation of the strictest pattern of saving fuel and energy resources. One should thoroughly take into account the remarks and suggestions of the workers, engineering and technical workers and employees directed towards all-possible saving of fuel, electricity and heat, react sharply to facts of negligent attitudes towards this matter by officials, and persistently reveal and extensively spread the positive experience of the leading collectives and production innovators. We should strive so that each labor collective takes active part in the all-union public inspection of the efficient use of fuel and energy resources and preparation for winter.

It is the duty of the party, soviet organs, all the economic leaders, and each labor collective to guarantee the timely preparation of the national economy of the republic for work in the fall-winter period, and the economical use of fuel and energy resources.

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CSO: 1822

ENERGY CONSERVATION

DISCUSSION CONTINUES ON EFFICIENT USE OF WOOD RESOURCES

Minsk SOVETSKAYA BELORUSSIYA in Russian 9 Aug 79 p 2

[Article: "In Order Not to Go to Arkhangel'sk for Wood"]

[Text] "For Wood...to Arkhangel'sk" was the title of a letter published on 27 January 1979 from a personal pensioner from Shklov, I. Kulikov. The author suggested a more zealous use of fuel and energy resources and a thrifty attitude towards local fuel. The conversation started by the letter was continued by the editorial staff in the correspondence "In Order Not to Go to Arkhangel'sk for Wood" published on 30 March. It analyzed the situation with fuel in Mogilevskaya oblast. The important theme was further developed in the responding letter of the director of the Korbinskiy rayon department of the local fuel industry and marketing A. M. Shushchuk "Fuel for Our House" (SOVETSKAYA BELORUSSIYA, 26 May 1979).

The Belorussian SSR Council of Ministers has commissioned the oblast Soviets of People's Deputies to discuss the article "In Order Not to Go to Arkhangel'sk for Wood" with the interested ministries and departments of the republic at the meetings of the ispolkoms, to determine specific measures for improving fuel supply to the population and communal-general consumers, and to present their proposals to the Belorussian SSR Gosplan. This commission has been fulfilled, although judging by the responses obtained by the editorial staff, certain oblispolkoms had a formal attitude towards it. Thus, the Mogilev oblispolkom essentially did not make specific suggestions to the Belorussian SSR Gosplan for an improvement in the fuel supply to the population, although the article in the newspaper concerned a whole series of oblast rayons.

The deputy chairman of the Brest oblispolkom, V. P. Starovoytov informed the Gosplan that the ispolkom had defined specific measures for improving the fuel supply to the population and communal-general consumers, however no word was mentioned about what these measures were.

The deputy chairman of the Gomel' oblispolkom Ye. D. Lyatochevskiy informed the Gosplan that the fuel questions were planned for discussion on 7 June of this year, but as the Gosplan claims, until now these questions have not been discussed, although not only June has passed, but also July.

Many oblispolkoms note that violations in the fuel distributions are permitted because the active statute "On the Order of Supply of Fuel to the Population, Communal-General Enterprises and Institutions of the Belorussian SSR" approved over 10 years ago is outdated and requires reworking.

The Vitebsk oblispolkom, for example, considers it inexpedient to involve the city (rayon) department of the local fuel industry and marketing in the felling of wood in the forestry farms since the forestry farms themselves cope considerably better with this task if they are equipped more completely with transportation resources and mechanisms. The Grodno oblispolkom holds the same opinion.

Currently in the forests of the republic a considerable part of the wood obtained in cutting soil improvement fields and in clearing for gas and oil pipelines, and power transmission lines is not being utilized. For years the wood felled by foresters in remote and difficult to reach forest tracts has not been taken out.

The Vitebsk oblispolkom proposes creating three city (rayon) departments of local fuel industry and marketing, or in the forestry farms mechanized brigades for felling and hauling out such wood. Each brigade must be given a skid tractor, loader, gasoline-powered saws, one-two wheeled tractors with trucks, and three-four trucks.

There is a need to examine and to take measures to improve the fuel supply to facilities of the construction ministries, Glavkholkhozstroy [Main Administration of Construction in Kolkhozes] and the Belorussian SSR Ministry of Land Reclamation and Water Resources.

The Vitebskaya oblast can be fully supplied with wood from fellings on its own territory. But at present part of the wood is exported outside the oblast. In 1978 74,000 cubic meters of wood, which is more than 40% of the total realization were shipped to other oblasts from the Polotsk, Orsha and Vitebsk lumber industry farms. Two thousand cubic meters were sent beyond the limits of the oblast.

At the same time "Bellebunsnabsbyt" annually plans for supply of wood to the city of Orsha, Miory, Shar'kovshchina, and other rayons from the Leningradskaya, Novgorodskaya oblasts, and to Vitebsk from Smolenskaya oblast. Thus, in 1978 15,000 cubic meters of wood were delivered to Vitebskshchina from other places.

Despite the multiple objections of the oblispol'na, "Bellebunsnabsbyt" has planned for 1979 supply of wood to the Vitebsk city department of the local fuel industry and marketing from the Smolensk forests along the West Dvina on rafts, and at the same time shipping of already finished blocks on cars from the Vitebsk lumber industry farms to the Brestskaya, Grodnen'skaya, and Gomel'skaya oblasts.

The Grodno oblispolkon proposes finishing the assignment for laying in their own stores of wood for chopping by clearing the forest of deadwood and other clutter for their own needs and to supply the workers and employees of the kolkhozes, sovkhoses, PMK [mobile mechanized column], MSC [interkolkhoz construction organization], DEU [road maintenance section], service stations, general service kombinats, rayon consumer unions and other enterprises and organizations that have their own transportation and mechanisms that make it possible to conduct organized felling of local fuel.

The office of the Grodno obkon design and planning office has examined the question "On the State and Measures for Improvement of Fuel Supply and Increase in the Production Machinery at Peat Briquette Plants of the Oblast" and has acknowledged that it is necessary to build by the end of 1983 at the "Ditva" briquette plant a shop for the production of briquettes with output of 110,000 T per year. The Belorussian Gosplan has supported the decision of the office.

The Minsk, Vitebsk and Grodno oblispolkons have planned during the summer period to implement the necessary measures for preparation of a boiler service, heat route, and heating systems by the beginning of the heating season to achieve efficient use of fuel and its maximum saving.

The Belorussian SSR Ministry of the Lumber Industry by the forces of its enterprises annually in conducting forest maintenance measures fells about 2.5 million cubic meters of wood which is distributed by the Gosplan mainly to the population and communal-general enterprises and institutions of the republic. However due to the great territorial dispersion of the chopping objects and the difficulty in hauling wood without preliminary skidding which the forestry farms cannot provide in full volume due to the shortage of tractors, the residues of unrealized wood at the end of the year usually comprise about 200,000 cubic meters. It is natural that the more the finished wood gets soaked in the forest under rain and snow the worse it is. The Ministry of the Lumber Industry has asked for more skidding and other logging equipment. But you will not immediately receive a sufficient supply of this equipment. Perhaps, in the period of mass logging (and this is always in winter) the equipment should be allocated by the interested enterprises?

According to the speeches of SOVETSKAYA BELORUSSIYA and the letters of citizens the Belorussian SSR Gosplan sent to the republic Council of Ministers a proposal "On Additional Measures to Supply Fuel to the Population and Communal-General Consumers" in which additional assignments for this year for felling and release of wood to the population, peat briquettes, stumps and lump peat are given in particular to the Belorussian SSR Ministry of the Lumber Industry and Ministry of the Fuel Industry. This will improve a great deal the fuel supply to consumers, however a more complete satisfaction of needs requires the accurate and smooth operation of all links of the fuel extracting and supplying ministries, departments, organizations and institutions of the republic.

In the recently adopted decree of the CPSU Central Committee and the USSR Council of Ministers "On Supplying the National Economy and Population with Fuel, Electricity and Heat in the Fall-Winter Period 1979-1980" specific measures are planned that are called upon to guarantee the fulfillment and overfulfillment of planned assignments of the current year for extraction, production and transportation of fuel. The most important task of all the organizations and departments is to achieve their unconditional fulfillment, and in every way possible to intensify the pattern of saving fuel, heat and energy.

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FUELS AND RELATED EQUIPMENT

HIGH OFFICIAL CLAIMS SOVIET OIL RESERVES ARE GROWING

Sofia RABOTNICHESKO DELO in Bulgarian 19 Sep 79 p 6

[Special for RABOTNICHESKO DELO, via APN: "Talk with Arkadiy Lalayants, Deputy Chairman, USSR State Planning Committee"]

[Text] [Question] Of late unsubstantiated assumptions are being intensively disseminated in the West, occasionally as reports issued by official institutions, on a decline in the search for petroleum reserves and the reached level of extraction. What is the real situation?

[Answer] In 1978 petroleum extraction, including gas condensate, in the USSR reached 571.5 million tons. Between 1960 and 1979 it has risen by an average of 23 million tons per year. In 1980 and in the next period through 1990 petroleum extraction will continue to rise but at a lesser pace.

As to the discovered petroleum deposits in the USSR, for the country at large they have not only not declined but have even increased. This has been accomplished thanks to the new petroleum deposits discovered by Soviet geologists in Western Siberia, the Komi ASSR, and other areas. The currently surveyed deposits under the shelves of seas around the USSR, and in Eastern Siberia and Kazakhstan, constitute a major and still unused reserve which will enable us to maintain and increase the level reached in petroleum extraction.

Developing petroleum extraction, we always bear in mind one or another specific area to which we pay maximum attention. In the 1950's and 1960's the center of gravity in petroleum extraction shifted to the "Second Baku"-- to the deposits in Tatariya and Bashkiriya and Kuybyshevskaya and Permskaya oblasts. In the 1970's the Tyumen' group of petroleum and gas deposits has developed at a pace unparalleled in the history of global petroleum resources. Currently this is the most promising area for petroleum and gas extraction. The mastering of the resources of Western Siberia under difficult natural-weather conditions is a true exploit of the Soviet people. Along with this, as I have pointed out, are Eastern Siberia, Kazakhstan, continental shelves, and other areas which we are surveying.

[Question] Therefore, petroleum extraction in the USSR will be clearly increasing, in any case. Does this mean, however, that a corresponding increase of its share in the fuel balance of the country is inevitable? Is it not planned to gradually replace the petroleum with less expensive and more accessible energy sources with a view to increasing the use of the petroleum as a chemical raw material?

[Answer] In 1960 petroleum accounted for 30 percent in the structure of the extraction of the leading fuel and energy resources of the USSR; in 1975 its share rose to 43 percent. Governed by our policy of easing the load of the oil industry, we are trying to reduce the share of petroleum in the fuel-energy balance by increasing the extraction of gas and coal, and the use of hydraulic and nuclear power. We are also faced with the task of increasing the extent of the processing of petroleum so that more petroleum products and chemical raw materials may be obtained from the same amount of petroleum.

We ascribe great significance to the development of open pit coal mining, including the mining of soft coal deposits in the Kansk-Achinsk Basin, whose reserves exceed 100 billion tons, and the coal deposits in the Kuznetsk and Yekibastuz Basins. Furthermore, in cooperation with other socialist countries, the USSR is already developing technological processes for the extraction from coal of an entire range of hydrocarbon products similar to those contained in the petroleum.

[Question] On the basis of the already mentioned and, as it now becomes clear, false claims, those same sources are speculating on the role of the USSR as a petroleum exporter. More specifically, various assumptions are being spread on future deliveries of Soviet petroleum to CEMA-member countries and the possible "inclusion of the USSR in the rivalry for accessible Middle Eastern oil," and so on. What are the prospects regarding Soviet petroleum exports?

[Answer] As to our foreign trade in liquid fuel, as is well known, the USSR has been a long time supplier of petroleum to the world market. We sell petroleum to the socialist and the capitalist and developing countries. The money earned is used to purchase necessary goods, machines, and equipment.

We have always fulfilled and will continue to fulfill our obligations. The Soviet Union is also interested in the purchasing of petroleum and gas wherever this is advantageous to us, guided by geographic and other conditions. We are receiving petroleum from Iraq and gas from Iran. Of late gas deliveries from Iran declined in connection with the events. However, we hope that in the future, along with the increased extraction of petroleum, the planned amounts will be delivered.

Basically, the Soviet Union imports petroleum and gas as payment for loans. Such imports are of a purely commercial nature. The USSR has invariably supported the principles of equality and mutual profit. Speaking of exports to the members of the socialist comity, let us note that, using the advantages of the planned economic system and developing mutually profitable

cooperation, these countries ensure their balances of the necessary fuel and energy resources essentially through their own sources and supplies from the USSR.

Naturally, maintaining a level sufficient to satisfy all requirements is no simple task facing the Soviet Union. It is not simple because it is related to extensive surveys and exploratory drilling and capital investments. We must also bear in mind that we must develop petroleum deposits under more difficult natural conditions and at great depths in the continental shelves as well. All this calls for the search for the type of methods of effective cooperation which would enable us to meet the real economically substantiated needs of CEMA-member countries for petroleum and petroleum products and, particularly, fuel for motor vehicles.

In this connection, in addition to continuing deliveries of petroleum from the USSR (nearly 370 million tons of petroleum and 46 million tons of petroleum products in the current five-year plan) to the fraternal countries, we are planning for its considerably more complete processing on the basis of the application of more advanced technologies and the more extensive use of secondary processes (catalytic, cracking, hydrocracking, coking, etc.).

We must also lower fuel oil expenditures for energy purposes. Above all, it must be replaced with coal and electric power produced by atomic and hydroelectric power plants. We also know the major role which the Soyuz gas main will play in ensuring additional deliveries of natural gas to the socialist countries.

The measures aimed at improving the economic structure and the scientifically substantiated distribution of energy intensive production facilities and, particularly, substantial savings and rational utilization of the energy and fuels assume great importance.

It is precisely this comprehensive approach that is reflected in the long-term target program for cooperation in the fields of energy, fuels, and raw materials, proved at the 32nd CEMA session, held in June 1978.

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FUELS AND RELATED EQUIPMENT

DEPUTY MINISTER NOTES PETROLEUM WORKERS' HOLIDAY

Moscow NEFTYANOYE KHOZYAYSTVO in Russian No 8, Aug 79 pp 3-5

[Article by A. M. Zhdanov, deputy minister of the Petroleum Industry: "Celebrating the Professional Holiday"]

[Text] On 2 September 1979 the nation's petroleum workers, following tradition, will celebrate their professional holiday - the All Union Day of Workers in the Petroleum and Gas Industry. This is a day to review achievements and the labor and political activities of workers, engineering-technical personnel and white collar workers.

Guided by the decisions of the 25th CPSU Congress and the decrees of the November (1978) Plenum of the CPSU Central Committee, petroleum workers are continuing their selfless work to fulfill the tasks presented them.

The better collectives in the sector became initiators of socialist competition in 1979: the Nizhnevartovskneftegaz and the Stavropol'neftegaz associations, the Strezhevoyneft NGDU [Petroleum and gas extraction administration] of the Tomskneft' Association, the Arlanneft' NGDU of the Bashneft' Association, the Al'met'yevskoye UBR [Drilling operation administration] of the Tatneft' Association imeni V. D. Shashin, the Surgutskoye UBR No 2 of the Surgutneftegaz Association in Glavtyumenneftegaz, the Administration for Main Oil Pipe Lines in West and Northwest Siberia, the Volgogradneftegeofizika Trust, the Konstantinovskiy Drilling Mud Weight Material Association in Soyuzneftspetsmaterial brigades in the leading professions lead by Heroes of Socialist Labor G. M. Levin and I. G. Peklov, winner of the USSR State Prize D. M. Nurutdinov, and former V. I. Volovodov, V. P. Prostov, O. A. Radzhabov, M. D. Myndyuk, Yu. M. Movlayev.

These collectives, having assumed high socialist obligations, have turned to workers in the petroleum industry with a call to more widely expand socialist competition in order to be ahead of schedule in fulfilling the plan and socialist obligations of the fourth year of the 10th Five Year Plan. Their call has found a fervent response. Concentrating their efforts on increasing the efficiency indicators of production, petroleum and gas workers have assumed the following obligations.

1. Reduce labor outlays for servicing one petroleum well by 4 percent compared to 1978, and thus conditionally release more than 5,000 industrial-production personnel.
2. Supply wells which produce 82.7 percent of annual petroleum and gas condensate output with integrated automated petroleum field equipment, and in 1979 put 19 petroleum fields into operation, increasing the total number to 217.
3. Compared to 1978 increase petroleum and gas extraction by 580,000 tons of petroleum above the plan, while for gas condensate the figure should be 180 million cubic meters, and to additionally sell output valued at 7 million rubles.
4. Extract 2.76 million tons of petroleum through the introduction of new methods for increasing petroleum extraction from reservoirs.
5. Obtain 15 million rubles of above plan profit on the basis of improving productive capital and reducing production outlays.
6. Compared to 1975 reduce the time required to drill and complete wells by 29.6 percent, reducing the average duration in 1979 to 91 days compared to a target of 97.2 days, and complete 100 wells more than the plan.
7. Extensively expand the struggle to intensify conservation, rationally utilize fuel-energy resources, and as a result save 1,250 million kilowatt hours of electrical energy.

The following collectives have assumed increased socialist obligations: Glavtyumenneftegaz, the Tomskneft' Association, Bashneft', Nizhnevolzhskneft', Ukrneft', Tatneft' imeni V. D. Shashin, Komi-neft', Grozneft', Stavropol'neftegaz, Dagneft'.

The initiative of progressive workers and production innovators in Moscow to fulfill the targets of the 10th FYP by the 110th Anniversary of the birth of V. I. Lenin has become evermore widespread among petroleum worker collectives. About 1,500 collectives of brigades, shops, and enterprises are working under the slogan: "The targets of the 10th Five Year Plan - Ahead of time!"

The better collectives are already reporting their fulfillment of the targets for the fourth year of the 10th FYP. The first among them include: the drilling brigades led by formen A. Amanyazov, and B. D. Logvinenko from the Turkmenneft' Association, G. A. Shulikin, Hero of Socialist Labor G. M. Levin, V. I. Shava, from Glavtyumenneftegaz, S. P. Stavskiy, Ya. V. Solodok, P. I. Markov, from the Ukrneft' Association, A. Z. Kuznetsov, V. V. Leonov, from the Belorusneft' Association, Hero of Socialist Labor I. G. Peklov from the Kuybyshevneft' Association, brigades for the underground and major repair of wells led by formen A. N. Khayrullin, V. N. Medved, from the Bashneft' Association, I. D. Budyuka, N. Ya. Kislov from the Krasnodarneftegaz Association and winner of the Leninist Komsomol Prize A. S. Prokayev from the Orenburgneft' Association.

On 28 April 1979 the collective of the Neftekumskoye UBR in the Stavropol'neftegaz Association reported that it was ahead of time in fulfilling targets for the completion of wells. Its workers have assumed increased socialist obligations - fulfill the five year plan for well completion by the 110th Anniversary of the birth of V. I. Lenin.

The following brigades have fulfilled targets of the 10th FYP; those led by drill formen N. M. Samonchik from the Belorusneft' Association, well testing forman V. K. Lyapushkin from the Kuybyshevneft' Association, S. A. Radzhabov, forman for underground and major repairs in the KAZneft' Association, and winner of the Lenin Komsomol Prize V. P. Zadorozhn from Glavtyumenneftegaz.

Due to unfavorable weather conditions in the beginning of 1979, in some regions the plans and socialist obligations for extracting petroleum and gas and for drilling wells are being fulfilled under great pressure. However, these collectives are also exerting the maximum effort to fulfill plan targets and socialist obligations. During five months of 1979 16 production associations met plan targets for the extraction of petroleum and gas condensate. Good results were obtained by collectives of the following associations: Grozneft', Stavropol'neftegaz, Dagneft', Nizhnevolozhskneft', Ukrneft', Embaneft'.

Minnefteprom [Ministry of the Petroleum Industry] fulfilled the gas extraction plan by 100.5 percent.

The following associations overfulfilled their plans for operational and exploratory drilling: Ukrayneftegaz, Stavropol'neftegaz, Ukrneft', and Belorusneft'.

Especially great successes in drilling and introducing oil wells were obtained by the collectives of the Nizhnevartovskoye UBR No 1, and the Surgutskoye UBR No 2 in Glavtyumenneftegaz. They were highly regarded by General Secretary of the CPSU and Chairman of the Presidium of the Supreme Soviet of the USSR, L. I. Brezhnev in his greetings to workers, engineering-technical personnel and white collar workers, party, trade union, and komsomol organizations in these UBR.

These greetings noted that many brigades, and above all initiators of socialist competition led by the formen G. M. Levin, V. T. Gromov, V. I. Volovodov, and A. B. Manakov, achieved outstanding results and have shown an example of courage and genuinely heroic work as well as high professional skill. The new obligations are to drill 70,000 - 85,000 meters annually per brigade, and for advanced brigades the figure is 90,000 - 100,000 meters. These are evidence of the advanced labor activities and great sense of obligation to fulfill the decisions of the 25th CPSU Congress on the formation of a territorial production complex in West Siberia, one of the nation's petroleum and gas extraction regions.

The goals outlined were set as a result of the use of progressive labor methods, the intensification of technological processes, the more complete utilization of internal production reserves and further improvements in the organization of socialist competition.

During 5 months of 1979 the collective of the Nizhnevartovskoye UBR No 1 fulfilled the well drilling plan by 100 percent. The average duration of operations was 42 days while the target was 47.1. The actual pace of drilling was 6,266 meters per month, while the plan was 4,960. During this time the collective at the Surgutskoye UBR No 2 drilled 33 wells while the plan called for 28, total drilling amounted to 129,500 meters compared to the plan of 121,000 meters. The cycle of well completion was 33.4 days compared to a target of 48.2.

The drilling brigade led by G. M. Levin (Nizhnevartovsk UBR No 1) drilled 36,139 meters of rock, while the plan called for 23,550 and completed drilling operations on 16 wells compared to the plan for 11. The drilling brigade led by V. I. Volovod (Surgutskoye UBR No 2) drilled 35,538 meters and completed 17 wells compared to a plan of 10.

In 1979 well drillers and related collectives are continuing to struggle to reduce the length of the cycle of well completion. They signed a contract for labor cooperation under the slogan: "Petroleum wells - In a flow". The 996 collectives of drillers, well rig installers, construction, transportation, and many other brigades are linked into a single process of well completion. They have assumed interrelated obligations to accelerate the

drilling and completion of wells. This movement has attained especially wide dimensions in the following associations: the 'Tatneft' imeni V. D. Shashin, 'Kuybyshevneft', 'Bashneft', 'Komi-neft', and Stavropol'-neftegaz.

The collective of the Al'met'yevskoye UBR has achieved significant successes. The 1979 plan was fulfilled on 23 December. An additional 15,000 meters were drilled and the field workers completed 361 wells, of which 8 were above the plan. The average duration of work per well was 39 days, while the plan for the end of the five year plan is 41 days.

The drilling brigade of formen D. M. Nurutdinov attained high indicators. In 1978 19 wells were drilled and transferred while the plan called for 16. A total of 31,025 meters were drilled, this was 5,025 more than the plan target; the average time required to drill a well in the brigade was 27.2 days while the plan was 35.2. During 5 months of 1979 the brigade drilled 10,399 meters of rock compared to a plan of 9,900. Seven wells were drilled and transferred. The average duration of work was 31.5 days, compared to a plan of 32.3. Productive time was increased to 89 percent, and 34,200 rubles were saved.

At February-March 1979 meetings of leaders of drilling brigades, rig installation brigades, and brigades for underground and major repairs of wells which were victors in the all union competition for 1978 there were discussions of problems in assisting collectives which did not fulfill plan targets and socialist obligations. In the appeals in the names of their brigades, they obligated themselves to assume supervision (shevstvo) over one or two lagging brigades and called upon all progressive collectives in the petroleum industry to follow their example.

One of the first began to work with the lagging collective of the drilling brigade led by Hero of Socialist Labor I. G. Feklov in the Otradnenskoye UBR. As a result of this, during 1978 out of total of 1,217 drilling brigades 1,000 (82.2 percent) fulfilled the plan, 846 (70.9 percent) fulfilled socialist obligations; out of a total of 306 rig installation brigades - 235 (76.8 percent) fulfilled the plan, and 216 (70.6 percent) fulfilled socialist obligations. Of a total of 835 brigades for petroleum and gas extraction 766 (91.7 percent) fulfilled the plan and 695 (83.3 percent) fulfilled socialist obligations; out of a total of 1,027 brigades for underground well repair 898 (87.4 percent) fulfilled and 829 (80.7 percent) fulfilled socialist obligations; out of a total of 887 brigades for major repair of wells 758 (85.4 percent) fulfilled the plan and 705 (79.5 percent) met socialist obligations. There are now 136 brigades in the leading professions which are lagging.

The plan targets have been fulfilled by collectives of enterprises and organizations in the Glavtransneft, the Neftegeofizika Administration, Soyuzneftegazpererabotka, Soyuzneftemashremont, Soyuzneftspetsmaterialy. Stavropol'neftegaz, Gruzneft', and Nizhnevolzhskneft' have reexamined and assumed increased socialist obligations.

The following received the USSR State Prize for outstanding labor achievements and for extensive work in developing socialist competition, as well as to find and utilize reserves for increasing production efficiency in 1978: drilling forman D. M. Nurutdinov, of the Al'met'yevskoye UBR, forman for underground repair of wells R. F. Payzullin of the Arlanneft' NGDU in the Tatneft' Association imeni V. D. Shashin, V. T. Gromov of the Nizhnevartovskoye UBR, No 1 in the Nizhnevartovskneftegaz Association in Glavtyumenneftegaz, head of the drill rig installation brigade M. S. Shatunov from the Izhevskoye UBR in the Udmurtneft' Association; winner of the Lenin Komsomol Prize, forman for underground well repair V. P. Zadorozhnyi from the NGDU Yuganskneft' in the Yuganskneftegaz Association, petroleum and gas extraction operator Yu. A. Lebedev from the NGDU Strezhevoyneft' in the Tomskneft' Association forman for major repair of wells A. Ye. Gorskiy from the Leninogorskoye Administration for increasing petroleum extraction from reservoirs and for the major repair of wells in the Tatneft' Association imeni V. D. Shashin; forman for the underground repair of wells I. I. Dunayev from the NGDU Yuzharlanneft' in the Bashneft Association; drilling forman A. N. Potapov from the Izhevskoye UBR in the Udmurtneft' Association.

The names of progressive production workers attaining high technical-economic indicators and actively participating in socialist competition to commemorate the All Union Day of Workers in the Petroleum and Gas Industry will be inscribed on the Plaque of Honor for petroleum workers at the Petroleum Industry Pavilion at the VDNKH SSSR [Exhibit of the Achievements of the Economy of the USSR]. The nation's petroleum workers are exerting all efforts, knowledge, and creative energy to successfully fulfill the targets of the fourth year of the 10th FYP, and are marking their professional holiday with new labor successes.

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FUELS AND RELATED EQUIPMENT

PROBLEMS AT KARAGANDAUOL' DETAILED

Aba-Ata KAZAKHSTANSKAYA PRAVDA in Russian 22 Aug 79 p 2

[Article by M. Semenyichik, KAZAKHSTANSKAYA PRAVDA staff correspondent, Karaganda: "Return the Former Glory"]

[Text] In the Karagandaugol' Association poor use is being made of the reserves for increasing the extraction of fuel and cutting of mine drifts.

Since the time of the start of operation of the Shakhtinskaya mine, that is more than five years now, the unfailing leader in the socialist competition here has been the collective of the third section, headed by N. Gladkikh. For the last three years the miners have extracted from one drift more than 500,000 tons of coal. Such a goal is planned now too. During its implementation at first everything proceeded normally: the section completed the first quarter with a "plus." In April, however, organizational and technical disorders threw the collective among the lagging ones. The reason is the usual one: there was a long delay in the changeover to the new drift due to untimely assembly of the mechanized complex. At the same time the lack of a quality working line also affected the work of other sections. As a result for the mine as a whole formed by May was a debt for extraction of 10,000 tons of coal. In the following months added to the earlier existing difficulties were new ones, connected with geological dislocations of the beds, for which the miners were not ready. In this way, the indebtedness rose to 80,000 tons of coal.

This is already the chronic "disease" of the whole basin: the untimely preparation of working lines, the delays in the disassembly and assembly of mining equipment in the drifts. In the given case too the example of the Shakhtinskaya mine is far from a solitary one. Lagging for these reasons over the extent of many years have been the mines Kazakhstanskaya, Aktasskaya, Abayskaya, Saranskaya, and Dubovskaya, and new enterprises are being added to these.

Still not very long ago the Karagandaugol' Association occupied the leading position in the sector for mechanized extraction of fuel, and growth of labor productivity. At the start of the current five-year plan

in order to keep the earlier won positions, the leaders of the association took an incorrect economic course--to development of the most accessible and high-capacity coal beds, leaving the worse ones "for later." In this case left in the background were questions of preparation of the excavations. Last year, for instance with respect to the plan the deficit came to 46,000 running meters of new working lines, and out of 208 tunneling brigades only 72 managed their assignments, and out of 26 mines 19 did. Naturally: if there is no tunneling, there is no extraction. The disproportion in the conduct of mining operations is felt especially acutely during the unfolded movement of the thousands and five-hundred-thousands. The tunnelers are behind the rates of the extractors, and they, in turn, cannot use their own potentials. As a result of this last year the association ended up with a debt of 1.5 million tons of coal.

When analyzing their work the coal men do not fail to allude to the growing level of mechanization of the tunnelers. This is so. Now more than 60 percent of the cutting is done by combines. But their utilization factor is not always high. The whole thing is that with the existing schemes of preparation of the excavations the brigades spend three-fourths of the working time on the delivery of materials and mechanisms, and timbering. A large part of the operations, up to 70 percent, even in the combine faces, is done manually. Hence there is a low productivity of labor and a large turnover of personnel.

For more than one year in party and economic agencies of the oblast talks have been conducted and decisions have been passed about the introduction of means of small-scale mechanization and delivery of materials to the preparatory faces. Approved several years ago was the initiative of scientists from the Karaganda Scientific Research Coal Institute (KNIUI) who, concluding an agreement about cooperation with the front-ranking tunneling brigades of heroes of socialist labor R. Litman and A. Kubaychuk from the mines imeni Lenin and the Maykudukskaya, promised to develop plans for scientific organization of labor, to improve the tunneling process, to mechanize the bringing of people, materials and equipment to the face. There was also a point like this: to create models of new equipment for the tunnelers. Unfortunately, the cooperation still has not brought the desired effect.

"The scientists as before are in debt to the miners," it was declared at a meeting of the oblast party and economic aktiv at the end of last year by R. Litman. "We need belt conveyors, mechanized complexes, means of transport. The scientific research and planning and design institutions are called upon to resolve these problems. So far we are not feeling essential aid from them..."

It was estimated in the brigade of the tunnelers: the monthly labor outlay for the basic jobs come to 400-500 man-days, and for the auxiliary

jobs 1.5-2-fold more. And no wonder, since it is necessary manually to carry the large-size and heavy sections, combines, the transporter...

Timely reproduction of the working line of the faces is a problem which has faced the miners of the basin acutely for 12 years now. During all this time the planned volumes of cutting mine faces in the association were not fulfilled.

Certainly there are also objective causes of the situation which has been created. Now the majority of mines is proceeding to deeper layers, as a result of which the mining and geological conditions become more complicated; the possibility, with the existing level of technical equipment, of not reducing the volumes of extraction is lowered.

Another important factor is the unsatisfactory material and technical supply. Moreover, the tunnelers are forced to perform many operations manually, to get along with low-capacity combines and ventilators for local aeration, with imperfect transport means. They constantly feel the shortage of metal timbers, of belt conveyors, of drag chains.

The problems of improving supply are not being solved flexibly enough by the association and the USSR Ministry of the Coal Industry. Frequently at the mines one hears reproaches addressed to the plants of the association for repair of mining and mine-transport equipment, and addressed to the specialized mine installation administration, in which the quality of repair and installation is not high. All this is correct. Meanwhile specialists from the RGS/O [expansion unknown] plant, for instance, and they would be happy to satisfy the demands of the miners, are also held back by the shortage of metal in the needed assortment. A way out, of course, is found: spare parts are deliberately manufactured with a deviation from the technical conditions. Is this a way out? Hardly: certainly after such "repairs" there soon will again be breakages and downtimes of equipment.

However, it is impossible to explain the chronic lag in tunneling just by the worsening of mining and geological conditions and material and technical supply. It is necessary to place in the forefront, rather, the organization of labor and production, socialist competition, concern about the development of the enterprises, about the people. This is proven in full measure by the collectives of the mines imeni Gorbachev, Severnaya, Dolinskaya, Molodezhnaya, Shakhanskaya and a number of others. Here from year to year the volume of coal extraction increases, and there is constantly a solid above-plan "makeweight." In order to have reserves of strength, created at the foremost mines are all possible conditions for the tunnelers. Directed to the sections for preparatory operations are the most skilled specialists, the shop party organizations are strengthened, and their activity is always under the control of the leadership and the party committees. The necessary assistance is given on time, a demand for work is always carried out on time. Namely

for this reason the brigades of N. Vasil'yev, M. Kurnikov, I. Faber, A. Lushanin, L. Golenko and others annually cut about 4,500-5,000 running meters and more of mine excavations, often for mixed faces. What is the secret here?

We happened to hear the answer to this question in a talk with Mikhail Pavlovich Kurnikov, heading the best tunneling brigade of the Severnaya mine and the whole basin. We have party and worker meetings, and a conference of specialists, he said, we can never do without careful analysis of the course of preparation of the working lines. And this attention yields its own fruits. Since the beginning of the five-year plan cut at the mine has been more than 30,000 running meters of mine excavations, including about 2,000 above the plan. Just in the past year prepared for extraction was more than 1.5 million tons of coal, which now has permitted the extractors to work with confidence, having a reliable rear arm for the attack on new frontiers in labor.

But such concern about tomorrow, about the future is often lacking at many other enterprises. Characteristic in this respect is the work of the Svakhanovskaya mine. There are more than enough different technical measures for increasing the rates of tunneling here, but not one of the undertakings is brought to a logical end. Not fulfilled every year is the plan for preparation of working lines, but nevertheless not once during the current year has this question been submitted for discussion by the communists of the mine. In the party committee they were not filled with alarm even last year when the brigade of G. Maurer, the only one at the mine which took part in the agreement for competition of high-speed tunnelers in the basin, did not fulfill the obligations. Such an attitude naturally will lead also to disruption of the plans for coal extraction. Now the mine already owes to the consumers more than 100,000 tons of fuel, and the "minus" grows with every week.

In order to correct the situation regarding the cutting of mine excavations and to create a front of work for the extractors, according to a decision of the party oblast committee the second quarter was declared to be a three-month period of shock work, an inspection of the utilization of additional reserves of production. This yielded definite results. By comparison with last year the rates of preparation of the working lines rose by 10,000 running meters. However what was planned was not fully achieved. Since the start of the year, cut less than the plan was about 3,000 running meters of excavations. Not meeting their quotas were 91 tunneling brigades (almost half of the existing ones), and 17 mines. There are especially many lagging ones in Saran', Abay, and the Okt'yabr'skiy Rayon of Karaganda. As a result there is a reduction in extraction. Now there are 16 enterprises among the lagging ones, the total debt of which exceeds 800,000 tons of coal. Gradually being reduced is the number of longwalls with a 1,000 ton daily load. Whereas at the end of last year this indicator was attained by the collectives

of 68 sectors, now it is eight less. And this is with the operating mechanized complexes, with which 122 longwalls out of 143 are equipped in the basin. Again the whole matter is in the ineffective utilization of powerful equipment due to the untimely preparation of the excavations and the installation of equipment in the drifts.

...The miners in their own group say: easy coal, just like easy grain, does not happen. This conclusion reflects well today's state of affairs in the association. It is necessary for the miners to increase the volumes of extraction of fuel under increasingly more complex conditions, in beds of lower capacities, at a greater depth. But the arising difficulties are surmountable. For the Karaganda miners there is no substitute for experience in this. It is important to use it in full measure in order to return to the basin the former glory of the front-ranking one in the country.

10908
CSO: 1822

FUELS AND RELATED EQUIPMENT

PROBLEMS AT NIZHNEKAMSK PETROCHEMICAL FACILITY DISCUSSED

Moscow PRAVDA in Russian 1 Sep 79 p 3

[Article by D. Stepanov: "A Means of Criticism"]

[Text] Imagine for a minute a situation like this. The surgeon has carefully examined the patient, made the diagnosis and arrived at a conclusion:

"It is necessary at once to cut out this abscess, otherwise the diseases will go deeper and affect the other organs. I must warn you seriously; there is no time to waste."

To this the patient, having reflected, gives approximately this answer:

"You are absolutely right, doctor. I thank you very much for your valuable advice. I will proceed in this way. I will apply to the diseased spot a light poultice. Then I will sprinkle it with powder. In 5-10 years it all will resolve itself. Rest assured."

In surgical practice you will hardly encounter this, is that not so?

But what happens at times in practice, far from medicine. Here are two examples for you.

A very large petrochemical complex made up of two associations: "Nizhnekamskneftekhim" and "Nizhnekamskshina" is being built on the shores of the Kama. And it is now revealed that in the warehouse facilities, and even more under the open sky at these two front-ranking chemistry construction projects, uninstalled equipment has accumulated worth almost 130 million rubles. Out of this, half, worth 68 million rubles, is imported. There is automatic equipment, there is electronic equipment, the latest in science and technology.

In this case the machine tools, compressors, machinery, and motors have been lying there for more than a year. And, subject to time, to the influence of precipitation and the sieges of extortioners, they are mercilessly rusting, aging and being pilfered for gardening and other domestic needs.

What do you say, is it possible to pass this by with indifference? It is not. Letters, one more alarming than the other, began to come to the editors. A correspondent went to the burial site and in 40 degrees of frost, having removed his hat, he stood at these sorrowful monuments to scandalous mismanagement and open bungling.

Published on 21 February in PRAVDA was a feature under the heading "Whale Under the Snow," in which the sad diagnosis was made and certain recommendations were proposed for immediate surgical intervention.

Three months later the editors received an answer from the deputy minister of the oil refining and petrochemical industry of the USSR O. Murad'yan on this subject. What did he write?

"The newspaper correctly and timely raised the question about unsatisfactory introduction of capacities at enterprises located in the city of Nizhnekamsk, about the large reserves of uninstalled equipment..."

Consequently, it was timely and correct. Well, yes, such an acknowledgment in itself is already valuable. What comes next? Next followed something incomprehensible. Well, of course, we are introducing the capacities unsatisfactorily, acknowledges comrade Murad'yan, this is true. But certainly we are not guilty of this. The guilty ones are the construction organizations of our neighbor, the Ministry of Power, they let us down: they are not fulfilling the pledges they made.

We are building housing poorly, this is also a sacred truth. But again the matter rests with the builders. The Ministry of Power "at a certain stage put on the brakes... and this led to stoppage of construction..."

And in conclusion, having repeated that the Ministry of the Petrochemical Industry "fully supports the problems raised in the article," the deputy minister proposes "jointly with interested departments to work out specifically measures for a period of 5-10 years..."

Well, by then there everything will resolve itself and the feature will be forgotten...

By the way, the Ministry of Power did not react in any way to the article, as if it did not occur at all.

The reader did not remain indifferent to the newspaper article and smothered the editors with letters: what is next? Who was punished and how for the damage inflicted on the state?

But what can the editors answer? Well, indeed, they might not publish the answer by comrade Murad'yan cited above with his nebulous quibbles about the neighbor and with good wishes for the future five-year plans.

The national good is perishing. Who is personally guilty of this? And in what way were the guilty parties punished? Not a word was said about this in the deputy minister's verbose answer.

But, perhaps, the guilty ones have already been subject to strict party punishments--certainly there are also communists among them. Two months after the publication of the article our correspondent in Kazan' reminded the comrades from the Tatarskaya Oblast Committee of the Party: the editors are waiting for an answer.

"The bureau of the oblast committee has worked out a decision. We will soon send it to PRAVDA."

Three more months passed and the promised answer still did not come. Again it was necessary to give a reminder.

"What, it was not sent? We will send it off today."

Finally, almost half a year later, the long-awaited answer came. The secretary of the Tatarskaya Oblast Committee F. Gaymullin informed the editors that the bureau had discussed the newspaper article and the criticism was "acknowledged as correct."

In the answer it is reported that "as a result of measures taken the rates of construction and installation operations have increased" and that "...there has been a significant reduction in the reserves of uninstalled equipment."

This is good. But the feature also talked about the unsatisfactory provision for the builders of housing, children's institutions, about the fact that cultural and domestic facilities are slow to be built, giving rise to manpower turnover. And once there are not enough workers, the plan for construction is disrupted, and the equipment is not installed on time. It turns into a chain. How can this be righted? There is not a word about this in the response.

And, finally, what responsibility was borne by those whose fault it was that national wealth was perishing under the open sky?

It turns out that serious punishments were announced. "The bureau of the oblast committee," reports Comrade Gaymullin, "pointed out to the leaders of the Nizhnekamskshina Association (comrades Zelenov, Pikov), and of the Tatenergostroy Construction Administration (comrades Boldyrev, Lazhetskiy) the serious shortcomings in the construction of facilities for the truck tires plant and the unsatisfactory organization of equipment storage."

It was pointed out...

Here is another example of the same type for you. An unhealthy situation took shape in the party organization of Ivanteyevskiy Rayon in Saratovskaya Oblast. Certain managerial workers in the rayon, to put it mildly, did not always observe the norms of party ethics, and sometimes even of our legislation. Meanwhile the bureau of the rayon committee and its first secretary N. Misyura made light of this and even indulged the violators.

According to the letter of the chairman of the rayon people's control committee V. Besshtanov, representatives of the people's control commission under the Saratovskaya Oblast committee of the party went to the site. Having established that the facts set forth in the letter "took place," the commission, in particular, wrote: "...a businesslike atmosphere is lacking in the bureau of the Ivanteyevskiy Rayon Committee of the party... The principled party criticism of the shortcomings in the work and behavior of individual leaders is substituted by an attempt at concealment and smoothing over..."

This question was investigated in the bureau of the oblast committee. However the participants in the Ivanteyevka epic got away with reproachful scoldings and tender words to "point out" and "direct attention." In a word, the saving method of applying powder and light ointments held sway.

At that time there also appeared a feature in PRAVDA entitled "The Making of a Movie." The authors of the article and the editors felt that "it was too early to bring it to an end," that "the Ivanteyevka story should receive a principled party evaluation."

Did this happen? Since the day of publication of the article more than a year has passed, and a group of readers from Ivanteyevka writes to us that the conclusions drawn were not at all those that were expected. Certain participants in the unpleasant story, including N. Misyura, were transferred to managerial work in the oblast center. The chairman of the rayon executive committee A. Saviv is also working in his former place.

On the other hand, the chairman of the rayon people's control committee, V. Besshtanov, the author of the letter to the oblast committee, was not elected a member of the bureau of the rayon committee.

Well, what are they thinking on this subject in the Saratovskaya Oblast Committee of the party. How has the oblast committee reacted to the sharply critical PRAVDA article?

This is unknown to us. In 13 months the Saratovskaya Oblast Committee of the party thus in essence has not answered PRAVDA for the criticism addressed to it. Meanwhile for us in the party it is accepted to respond to criticism in the press. This is the truth.

Let us remind the comrades from Saratov of one more truth. If we do not decisively eradicate shortcomings in work, but we prefer to brush aside principled criticism, this... "will unfavorably affect the education of cadres."

The quote was taken by us from the references of the party control commission regarding the Ivanteyevka case...

We have cited here only two examples of an incorrect attitude toward criticism in the press. Unfortunately, these examples are not solitary ones. It still happens that after a sharp article in the newspaper it is necessary (and not just once) to remind the comrades that the readers are waiting to see what kind of measures will be taken at the site. At times instead of a businesslike, principled evaluation of the events, instead of strict party exactingness there comes to light a clumsy attempt to "smooth over the corners," to conceal and, to put it bluntly, to "step on the brakes," to save the guilty ones from healthy criticism no matter what has happened.

The press in the hands of our party is a mighty weapon in the struggle against all that hinders our movement forward. And we cannot calmly pass by the "kindly" leaders, those who like to shield the guilty parties and apply powder where urgent surgical intervention is needed.

10908

CSO: 1822

DEEP DRILLING REQUIRES BETTER COORDINATION WITH SCIENTISTS

Moscow SOVETSKAYA ROSSIYA in Russian 11 Sep 79 p 2

[Article by V. Bidzhakov, Chief Geologist, Tomsk Territorial Geological Administration: "Lower 'Floors' of Petroleum"]

[Text] Probably, not everybody knows that until recently geologists conducted their search primarily at depths above three kilometers. They felt that it was here, in Mesozoic deposits, that the main petroleum deposits were located. What about lower, in the Paleozoic? Back in the 1930's Academician I. M. Gubkin proved that commercial reserves of petroleum could be located both in the younger upper strata and in the older ones found in the "floor" below.

This characteristic case is today one of many. Two years ago in the Chkalovskaya area in northern Tomskaya Oblast, exploratory workers in the Aleksandrovskaya Expedition drilled the first well to pass through Mesozoic strata and to penetrate 100 meters into Paleozoic deposits. At this depth we were not especially expectant about finding a flow of petroleum and gas. However, when we began testing, the well suddenly began to produce. Thus, the exploration of a new deposit began from an unexpected result.

Gushers "from the depths" are no longer such a suprising event. For example, a promising region, the so-called Nyurol'skaya Depression, has been found. There is even more proof that petroleum is not a privilege of the upper "floors" of the planet. Scientists at the Institute of Geology and Geophysics at the Siberian Department of the USSR Academy of Sciences, lead by Academician A. A. Trofimuk, feel that there is no doubt about the promise of the Paleozoic. Deep oil is one of our reserves even in the foreseeable future.

True, scientists have still not arrived at a common opinion in estimating the predicted reserves of Paleozoic petroleum. The divergence of opinion varies by one or two orders of magnitude. In particular, the problem is that the flows of deep petroleum have been obtained from the upper strata of the Paleozoic. Is it in the lower formations of this epoch? This is still an open question. It can be answered only after diligent work, and the accumulation and processing of sizable amounts of information. The time has come for a general attack on the Paleozoic.

Several years ago in Tomsk, USSR and RSFSR Gosplans, union and republic ministries of geology, and the Siberian Department of the USSR Academy of Sciences conducted an All-Union scientific and practical conference defining the strategy for searching for oil and gas in the Paleozoic. The work follows a goal directed comprehensive program. The USSR Ministry of Geology has now made a decision to continue a more goal directed study of petroleum and gas bearing Paleozoic deposits as a major task for the national economy.

The exploration for deep petroleum is one of the main directions of our geological administration's activity in the 10th Five Year Plan. However, the growth in such reserves has still less than expected although the volume of drilling has grown considerably. It is difficult to find deep petroleum and just as difficult to study it. Take the Urmanskaya area, for example. Three out of five wells drilled have yielded petroleum. These are not bad results! We have not, however, been able to calculate the reserves. It might turn out that reserves from the lower "floor" cannot be used in extraction planning.

A new undertaking has new complications. True, initially the problem of studying the Paleozoic did not seem so special. Alas! It required a basically new approach to its solution. Speaking self-critically, we did not immediately understand this, and to that extent we wasted time. Unfortunately, so far we have not drilled one deep - four kilometers - well in the center of discovered Paleozoic deposits. This is just what Academician A. A. Trofimuk recommended. In his opinion it is such areas that contain very valuable information. Tomsk petroleum workers will now drill such a well at the Kalinovskoye Deposit. We will begin a similar operation at the Urmanskoye Deposit, that is, we will strive to make up for lost time.

Difficulties usually arise even in determining the deep drilling site. Specialists should help geologists solve many pressing problems. One cannot say that science is standing on the sidelines of the problem of oil and gas in the Paleozoic. However, scientists could be more specific in the contributions they make.

We now have a situation where more than 10 NII [Scientific research institute] are to some degree involved in the study of deep formations. However, scientists' collectives are frequently only incidentally involved with the Paleozoic: If some is found, good; if not, it is no problem. It is difficult, for example, to explain why many NII, which have considerable potential in this regard, were not enlisted into the goal directed program ratified by union and republic ministries of geology. So far their activities do not go beyond scientific discussion.

Even those organizations which work in close contact with explorers of the underground, such as the Siberian NII of Geology, Geophysics, and Minerals, primarily solve problems in the regional study of the Paleozoic. It is they who should deal with specific deposits and all of their characteristics. It is time for science to approach them. The Ministry of Geology should closely link to the Tomsk deposits one of the institutes, in particular, the Belorussian Scientific Research Geological Exploration Institute, the All-Union Scientific Research Geological Exploration Petroleum Institute; or expand work on such a plan directly at Tomsk. There is experience on scientific supervision (shevstvo), for example, over the Orenburg Gas Deposit.

Now, in addition to the Nyurol'skaya Depression, it has been proven that there is oil and gas in the Ust-Tymskaya, within which the Chkalovskoye Deposit is located. Finally, there are also other deep reservoirs. It is apparently advisable to create a geophysical test area in the Nyurol'skaya Depression, where modern methods and equipment could be tested.

Scientists have justifiable complaints against us too: How much material did geologists produce for study? Alas, not much so far. In deep drilling one of the "bottlenecks" was the low output of drill cores - rock samples. Without them there is nothing to study. The quality of deep drilling also requires attention. For example, this happened at the North Osetinskoye Deposit. A gusher of mineral water with a film of petroleum was obtained from a great depth. However, this frequently happens on "dry" wells. In short, drilling could be stopped with a good conscience. N. Ye. Nekrasov, the chief geologist of the Vasyuganskoye Expedition, and a very experienced specialist, suggested isolating the lower part of the strata and continuing tests. As a result, they found a strong gusher of petroleum and gas, one of the largest from the Paleozoic. We were forced to think: Perhaps we had previously passed by oil in similar situations?

Another one of our problems is that drillers frequently have to work blindly. The geophysicists are lagging behind them, while, on the contrary, they should be ahead of them. Here is a recent example. The first well in the North Kalinovaya area was drilled on the basis of geophysicists' rough sketches. It is apparently not for nothing that geologists bitterly joke that they should work in a square and uniform method (kvadratno-gnezdoviy), that is completely drill the entire area.

What then is the problem? The Tomsk Territorial Geological Administration has a Geophysical Trust. Its work load should be increased. However, even without such an increase it has a large annual increase in work volume and almost the nation's highest technical economic indicators. This does not make the drillers' work easier. Apparently, the ministry should think about strengthening our geophysicists.

Recently the CPSU Central Committee and the USSR Council of Ministers passed a decree on improving management and planning. It was with satisfaction that we read the lines stating that USSR Gosplan, ministries and departments should see that "the concentration of efforts and resources on the implementation of the most important general state programs, not allowing a narrow sector approach...."

Deep exploration for petroleum in the lower "floors" has already passed from scientific discussion to production. Pipelines are being laid towards the group of deposits in the Nyuroi'skaya Depression. In time, it is planned to build a settlement for Tomsk petroleum workers here. Our task is to thoroughly study the problems which will lead scientists and field workers to promising deep deposits.

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FUELS AND RELATED EQUIPMENT

BRIEFS

GAS STORAGE FACILITY--Completed ahead of schedule was the five-year assignment for increasing industrial reserves of gas by the geological prospectors of Turkmenistan. The important work was completed ahead of the schedule owing to the concentration of drilling operations at the very promising Dauletabadskaya and Donnezskaya sites, where a large deposit of natural fuel was revealed. In the region of Shatlyk in recent years a mighty gas-extracting complex has arisen, supplying the system of trunk gas pipelines from Central Asia to the Center. High-yield recoveries of fuel from the earth are foreseen here for uninterrupted supply of the ever-growing needs of the national economy. [Text] [Baku VYSHKA in Russian 25 Aug 79 p 1] 10908

SURGUT-POLOTSK OIL LINE--Pera', 14 Aug. Siberian oil arrived today at the oil refining enterprises of the Kama region along the under-construction trunk Surgut-Polotsk oil pipeline, having overcome a more than 1,000-kilometer route across swampy marshes and the Ural mountains. So far only one-third of the planned route has been cut, and its total length will be 3,500 kilometers. They have now set course for Gor'kiy. [Text] [Moscow PRAVDA in Russian 15 Aug 79 p 1] 10908

GAS SUPPLY TO LENINGRAD--Leningrad, 30 July. Blue fuel arrived in the city today along the Gryazovets-Leningrad gas pipeline. Completed was the labor of the builders who in compressed periods laid the 600-kilometer trunk line from the "Siyaniye Severa" pipeline. This makes it possible to improve the supply to enterprises and new microregions in the city, and to increase the delivery of fuel from the deposits of Western Siberia and the Komi ASSR to the central regions. The builders worked under complicated conditions: the route went through marshes and swamps, across the Volkhov and Neva rivers. Used during the building was the latest excavating and pipe-laying equipment, and helicopters. Utilized was the progressive block method: the elements of the compressor stations were assembled at the manufacturing plants and then were put together at the construction site. Over 9 billion cubic meters of fuel will be supplied on the trunk line annually. [Text] [Minsk SOVETSKAYA BELORUSSIYA in Russian 31 Jul 79 p 1] 10908

COAL MINING EQUIPMENT--Kazarovo, Krasnoyarskiy Kray. The planned productivity was reached during industrial tests at the Kazarovo coal mine by a walking excavator with a bucket capacity of 100 cubic meters. Such equipment is to operate at coal-mining enterprises of the Kanak-Achinsk fuel and power complex, which is being created in Krasnoyarskiy Kray. The coal extracted here by the cheap open method will be to "feed" the constellation of large heating plants, and their energy will go along superpower electric lines to the Urals and the center of the country. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 24 Aug 79 p 1] 10908

BUKHARA-URAL GAS PIPELINE--Put into operation ahead of schedule on the Ustyurt plateau was a new 28-kilometer section of the Bukhara-Ural gas pipeline. It became the fifth by count on the most difficult section of the gas artery. Putting into operation an additional underground trunk line will make it possible to increase the reliability of the system, and to increase the daily transport of gas to regions of the Urals by 1.5-2 million cubic meters. [Text] [Tashkent PRAVDA VOSTOKA in Russian 12 Aug 79 p 2] 10908

GAS FIELD COOPERATION--Ashkhabad. The brigade of drilling foreman M. Kritsun has turned over to the operations personnel of the Shatlyk Gas Condensate Deposit one more gas-bearing well. The prospectors of the depths from Ivano-Frankovsk are tunneling wells in the desert for the second year and during this time they have already drilled more than 10,000 meters of rock. Now working at many gas deposits of the Karakums are envoys from Tyumen', Uzbekistan and Tataria. Labor cooperation will help to increase the operating reserves of gas and its extraction. [Text] [Moscow IZVESTIYA in Russian 31 Aug 79 p 1] 10908

KALANKAS OIL DEPOSIT--Kalankas, Mangyshlaksкая Oblast, 24 Aug. The first tons of oil have been given off by the wells of the new Kalankas deposit on the Bazachi peninsula. Every year three million tons of fuel will be extracted here. [Text] [Moscow PRAVDA in Russian 25 Aug 79 p 1] 10908

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MINERALS

DEVELOPMENT OF THE TALNAKHSKO-OKTYABR'SKOYE POLYMETALLIC ORE DEPOSITS

Moscow PRAVDA in Russian 31 Aug 79 p 3

[Article by N. Mel'nikov, academician, Hero of Socialist Labor: "Polar Storehouses Serve the People"]

[Text] In the early sixties, the Talnakhsko-Oktyabr'skoye copper-nickel ore deposit was discovered on the right bank of the Norylka River. This event enhanced the potential of the Noril'sk industrial region considerably. The directives of the 25th party congress specified the further development of the Noril'sk Mining Metallurgical Combine and an increase in production of nonferrous metals from the raw materials of this combine. This meant the necessity of more rapid and more business-like assimilation of these additional resources and putting them in service to the people.

It was difficult to do. Great depths (up to 100-1200 meters) in combination with gently sloping ore seams, low strength ores surrounded by rocks increased the mining pressures. Even in untouched massifs these pressures reach 3000 tons per square meters, while near the mining zone they increase two to three times. Such vast pressures are capable of causing a blast-like collapse -- a mining shock, a menacing phenomenon of nature, which is frequently catastrophic. The situation was also complicated by the fact that the surrounding rock is saturated by explosive gases -- methane and hydrogen. At the same time, the great value of the deposits needed a business-like attitude -- the use of mining methods that would provide a high degree of ore extraction from the deposits. I will add that the mining enterprises had to be built and assimilated in an uninhabited region, under severe conditions of the Extreme North, with all necessities being supplied over waterways during the short polar summer.

Traditional methods of construction and assimilation of mines were unsuitable here. It was necessary to make a wide complex of scientific investigations of key problems in controlling mine pressures, developing a new technology of mining at great depths and organizing planning and construction. The results obtained were the basis of the adopted plan of action.

Of special interest are the solutions related to accelerating the putting of facilities in operation. The mines were planned stage-by-stage, in parallel with detailed exploration of the deposit. The construction-installation work was combined to a maximum and done at the same time on adjacent facilities. Accelerated tunneling of large cross sections of main and preparatory drifts was also done simultaneously. Special attention was given to the efficient utilization of highly productive equipment and advanced organization of labor. All this made it possible to reduce the norm schedules for building the Komsomol'skiy Mine by two years and the Oktyabr'skiy Mine -- by 3.5 years, at higher rates of assimilating their capacities than specified by the norms. At decisive construction periods, up to 60 percent of the major mining work was accelerated.

When the first stage of the Oktyabr'skiy Mine was put in operation, collectives of builders, installers and miners were congratulated warmly by Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee. He noted in particular that during technical solutions helped solve, in a short time, responsible problems on putting the mine in operation and mining the high quality ore.

For the first time in world practice, a continuous single-stage layer extraction of thick seams of ore and the filling of the worked-out space with hardening mixtures was developed and implemented. This method was protected by an author's certificate. This made it possible to achieve an unprecedented complete-extraction of valuable raw material from the earth (with losses not exceeding two percent) and a high productivity of labor.

Powerful and mobile modern self-propelled equipment with a diesel engine, which are widely used in the new mining method, transformed underground mining, lifting it to a qualitatively new level.

The time for achieving the rated capacity in mining ore was halved. Capital expenditures for building the Komsomol'skiy and Oktyabr'skiy mines repaid themselves in three and 4.5 years respectively after the start of operation. The production of nonferrous metals from the raw materials of the Noril'skiy Combine increased by several times. The assimilation of the Talnakhsko-Oktyabr'skiy deposit facilitated the further development of the outpost of Soviet industry in the Extreme North, including the city of Noril'sk. The longrange prospects of high efficiency production of copper, nickel, cobalt and other metals in the USSR were insured.

The multifaceted paper "Development and introduction of progressive technical solutions for assimilating, in a short time, the Talnakhsko-Oktyabr'skiy polymetallic deposit that provided a sharp increase in production of non-ferrous metals at the Noril'skiy Mining-Metallurgical combine" was evaluated

highly. Its collective of authors was deservedly put forward in the competition for the USSR government bonus because we are talking about a great contribution in creating a powerful raw materials base for the production of nonferrous metals and further assimilation and development of the severe Extreme North of our country.

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